

R E M A R K S

INTERVIEW BEFORE ACTION ON THIS AMENDMENT

In view of the extended prosecution of this application and health of the applicant, the applicant respectfully requests that after review of this amendment and before any action thereon, a personal interview with the Examiner and the Examiner's supervisor be schedule at a mutually acceptable time. The applicant has a health condition which does not allow him to travel, however, the undersigned is available except between September 7 and September 20, 2004.

Your cooperation to complete the expedited prosecution to issue is sincerely requested.

The interchange of two 37 C.F.R. 1.116 amendments, Advisory Actions and telephone conferences relating thereto has created a record which leaves the applicant with challenges as to how to conclude this prosecution with allowed claims to which the applicant is truly entitled.

The Office Action dated March 23, 2004, appears to address the second 37 C.F.R. 1.116 amendment; yet, the Advisory Action dated February 25, 2004, states that the 37 C.F.R. 1.116 amendments were not entered. This same Advisory Office Action stated that claims 20-21, 26, and 27 were allowed as did the Advisory Office Action of December 23, 2003. It is believed that the Supervisory Examiners, Glenn Caldarola and Gregory Vidovich, intended to allow these claims in the form of the first 37 C.F.R. 1.116 amendment dated November 17, 2003.

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At this point, all claims are again rejected, and the Examiner has continued to assert substantially the same arguments in support of the rejections as those presented in the Office Action dated April 22, 2003, and in the now withdrawn Final Rejection dated September 17, 2003.

Applicant very much appreciates the courtesy and consideration shown his attorney in the course of the telephone conferences with the Examiner and with Supervisory Examiners Gregory Vidovich and Glenn Caldarola when the Examiner was not available. Withdrawal of the final rejection and reopening of the prosecution in the present application is also deemed essential and is much appreciated.

Claims 20, 21, 26, and 27 now appear essentially as in the first C.F.R. 1.116 amendment dated November 17, 2003.

Claim 27 has been simplified somewhat but is essentially the same form as previously allowed in meaning as previously.

As a result of all the above, applicant is proceeding on the basis of amending the claims as they appeared on the amendatory paper dated July 21, 2003, but overcoming such comments and rejection in the recent Office Action.

Claim Rejections - 35 U.S.C. 112

Claims 1-10 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 10, the recitations of

- a) "a shaft attachment surface" and
- b) "weight member support extends from the shaft attachment surface"

was considered by the Examiner as inaccurate and indefinite. Applicant agrees that the claim calls for a shaft attachment surface but disagrees with the Examiner in the second respect, since the second quotation underlined above is not found in claim 1.

In the interest of expediting this prosecution, both of the phrases a) and b) are now not present in either claim 1 or 10, as amended. It is, therefore, respectfully requested that the rejection of claims 1 and 10 in paragraph 1 under 35 U.S.C. 112 be withdrawn.

Applicant has amended claim 1 such that, after reciting the clubhead "body", and "a rear side" of said body that the weight member support extends "rearwardly from said rear side of said body". This is believed to be totally accurate and also eliminates reference to a "shaft attachment surface" which appeared in the second proposed 37 C.F.R. 1.116 amendment. The claim has also been amended to recite "each end of said weight member being unsupported at its ends and cantilevered from its attachment to said support", as clearly shown in Figs. 1 and 3.

As shown in the drawings, particularly Figs. 1-3, and to provide clear support in the specification for the well-established term "cantilevered", the specification has been amended on page 7 at lines 10 and 12 to include this term.

In *Webster's New Collegiate Dictionary*, copyright 1976, "cantilever" is defined as

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"a projecting beam or member supported at only one end".

In *Analysis and Design of Steel Structures* by Fuller and Kerekes, copyright 1936, D. Van Nostrand Co., a cantilever beam is defined as "a beam supported and fixed at only one end is a cantilever beam". Copies of these authorities are enclosed herewith as Exhibits E and F.

This cantilevered structure is, of course, obvious from both the original description and the drawings, so there should be no question of new matter. The accompanying declaration of Dr. Robert Brodsky further establishes that "cantilevered" is scientifically the well-known term for structures of this type; Brodsky Declaration ¶10(b).

Claim 10 has been amended to depend from claim 1 and now recites that "said weight member support extends above and to the rear of the top surface of said body". The "shaft attachment surface" is no longer recited. This change is also appropriate since the actual location of the shaft, unlike all of the references cited, is not required to be at any particular location. See Dr. Brodsky's declaration, ¶10(c).

It is believed that any indefiniteness ascribed to claims 2-9 was based on independent claim 1 and that such asserted indefiniteness is avoided with the above-described changes to claim 1.

This rejection of these claims, 1-10 under 36 USC 112, should, therefore, be withdrawn. Such action is respectfully requested.

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Claim Rejections 35 U.S.C. §103

Claims 1-7, 9-10, 14-15, 17-18, 20-22, 24, 26-27, and 33-34 were rejected under 35 U.S.C. 103(a) as being unpatentable over Paquette (5,308,069). It is noted that the Examiner has applied Paquette in essentially the same way and with essentially the arguments presented in the withdrawn final Office Action dated September 17, 2003.

As to claims 1-2, 6, 10, 14, 15, 20, 24, and 33-34, the Examiner asserted that it is "an obvious matter of design choice" whether a weight is supported at both ends, or the weight is supported at its center with each end of the weight free to move. A rejection based upon the Examiner's or the Board's conclusion of modification of the prior art structure, untaught by the prior art, is held unwarranted particularly in the face of applicant's showing in *In re Chu* 36 USPQ2d 1089 @1094,5 (CAFC) 1995, copy enclosed as Exhibit G. The rejection is contrary to the plain language of the claims and sound engineering principles. See Declarations of

Dr. Robert Brodsky, particularly paragraph 10

Mr. Kent Brown and Dr. Tim Somerville
of the Professional Golfers Career College,
the entire letter' and

Mr. James Olliff, Engineer,
Particularly, paragraphs 7-9, 16 and 21

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Of his declaration and his Exhibit A.

These declarations are attached hereto and incorporated by reference as Exhibits A, B, and C, to this amendment, respectively.

Declarations Summarized

Declaration of Dr. Robert F. Brodsky

In support of the above, applicant has enclosed a Declaration of Dr. Robert Brodsky, whose qualifications are set forth in the accompanying declaration. With knowledge of golfing and of mechanics, Dr. Brodsky concludes that the applicant's putters are fundamentally different from that of Paquette. The shaft mounting bight 30 of Paquette's putter without free ends is inherently incapable of providing compensating inertial moments about the club shaft as does applicant's putter. He states that the two putters are fundamentally different and "neither one could or should be considered to support the other as merely choices in design".

Declaration of James W. Olliff

Applicant has also included a declaration of James W. Olliff whose qualifications are included in his declaration. Mr. Olliff describes the testing which he did to determine the acoustic characteristics of applicant's putter. The audible differences in the sound resulting from striking a ball at the toe, at the center, and at the heel of applicant's putter

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clearly show up in graphs reflecting acoustic responses from striking the ball at the toe and the heel, as compared from striking the ball at the center. These graphs demonstrate that the T-shaped weighted member is definitely a resonant structure.

As a result of his testing, Mr. Olliff concludes that applicant's T-bar putter and the putter shown in the Paquette patent are structurally and operationally different.

Joint Declaration of Kent J. Brown and Dr. Tim Somerville

Mr. Brown and Dr. Somerville state in the letter accompanying their declaration that they are familiar with applicant's T-bar putter, that they have tested it, that they experienced the different sounds when a ball was struck toward the toe or heel as contrasted with the sounds when the ball was struck at the sweet spot.

In their professional experience in golf and in the golf industry at the time of their tests, they had never seen anything in the field that is the same or similar to applicant's T-bar putter. They also stated that they had reviewed the Paquette patent and that they had never seen or heard of such a putter on the market and, based on their experience, no one looking at the Paquette patent would associate it with the T-bar putter concept or design.

Their opinions, all requested and given freely, cannot be disregarded in compliance with *Graham v. John Deere* 383 U.S. 1 (1966), 148 USPQ 459, as to factors which must be considered to support a conclusion of obviousness. The further evidence of immediate recognition of the novelty of this invention and copying and

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success by others as indicated by the Declaration of Mr. Brown and Dr. Somerville, and the declaration of the inventor, Mr. Finn, in his declaration and attachments of November 14, 2003, submitted with the amendment under 37 CFR 1.116 on November 17, 2003 all support evidence of nonobviousness and commercial success of this invention. An additional copy of Mr. Finn's declaration is enclosed herewith as Exhibit D to insure its availability and consideration by the Examiner.

Applicant, of course, disagrees that the clearly-defined structure of the laterally extending free end rear weight or "T-bar" results from an "obvious matter of design choice".

Paquette addresses a problem presented by center-shafted putter, and so Paquette seeks to convert a single-point shaft connection to a spread out two-point connection which brackets the sweet spot. Applicant ignores the topic of wanting a balanced handle shaft connection, and proceeds along a different path to provide novel and unobvious weight structures which improves putter performance.

The Examiner has Mischaracterized the Paquette Reference

The Examiner has repeatedly referred to Paquette's bight portion 30 of his shaft attachment bar 28 as a "weight". The purpose of Paquette's bar 28 is to provide a means of attaching shaft 26 to the head 12 using a spaced two-point connection of a putter shaft to a putter clubhead. Shaft 28 is attached to a block 38, which is secured to bight portion 30. The force from shaft 28 is transferred through bight portion 30 to the

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legs 32, 34 and into the head 12. The spacing of legs 32, 34 about two inches apart is said to reduce the "dispersion rate" when the golf ball is hit somewhat off the "sweet spot".

Nowhere in Paquette's specification is bight 30 referred to or characterized as a "weight". In describing the weight distribution of a head 12 as 30% at the toe and heel portions and 40% at the central portion, the weight of the shaft attachment bar 28 is simply lumped into the 40% of the central portion. Were the weight of bight portion 30 of concern, as a weight, this surely would have been spelled out in detail. Actually, Paquette states that his putter is "approximately 10.3 ounces, while the weight of conventional putters is 11 to 11.3 ounces (Col. 3, lines 16-19), so the weight of his entire putter is less than average. This is a teaching away from the applicant's invention.

Thus, the Examiner, by use of hindsight, has mischaracterized Paquette's element 30 as a weight, which is fundamental to the Examiner's lack of appreciation of the patentability of applicant's claims.

Claim 1 - Rejected as unpatentable over Paquette, the Examiner asserting that it is "an obvious matter of design choice whether a weight is supported at both ends, or the weight is supported by a single central support member". The Examiner's conclusion is premised upon a mischaracterization of Paquette's disclosure and is unsupported by any showing and opposed by the enclosed declarations of four experts in the fields of

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engineering and golf.

It is also clear that Paquette's end supports 32, 34 for bar 30 do not constitute "a weight member being supported at its center" with "each end of said weight member being cantilevered from its attachment to said support". This plain language is believed clear and recites sound engineering and distinguishes over Paquette.

Paquette's attachment bar 30 is not "supported at its center" nor is "each end of said weight member cantilevered from its attachment to said support", as recited in claim 1. The suggestion that because Paquette has no supports under the ends of bight 30 and that Paquette has a weight member whose ends are unsupported is creative but totally unsupported by the teaching of Paquette. Legs 32, 34 clearly support the ends of bight 30 from the front. If the ends of bight 30 were unsupported, the putter would fall apart and be inoperative.

Claim 1, as amended, is believed clearly allowable over Paquette.

Claim 2 - Rejected on Paquette, the Examiner again asserting that it is "a mere matter of design choice" as in rejection of claim 1.

Claim 2 is believed allowable because it is dependent upon allowable claim 1 and because Paquette's supports and attachment bar are clearly not T-shaped "and cantilevered from the point of attachment of said support to said body", as now claimed. A "T" is not a "U" and a reduced weight putter is not a rear T-weighted putter.

Claims 3 and 4 each contain all the limitations of claim 1 and as such are

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believed to be allowable as they define the applicant's preferred embodiment and produce the dynamic action unique to the applicant's invention and further define over any structure fairly suggested by Paquette.

Claim 5 was rejected on Paquette, supported also by the Examiner's assertion that it is "a mere matter of design choice" as in the rejection of claim 1.

The Examiner also states, as to claims 5 and 27, that "it would be obvious to have the claimed support member with sufficient extension to facilitate the attachment of the elongated cylindrical weight"; that assertion is fatally flawed for several reasons.

First, it is based on a hindsight view of Paquette, which wrongly regards Paquette's element 28 as a weight. Inasmuch as Paquette never refers to element 28 as a "weight", the motivation to regard it as a weight can come only from applicant's disclosure and claims.

Second, the basis for the improper assertion ("to facilitate the attachment of the elongated weight member") has no parallel in Paquette and clearly is based on applicant's disclosure.

Third, rejections are to be based on evidence, and the Office may not gloss over a material lack of evidence with a simple and unfounded assertion of obviousness. In re Chu, supra. The claimed "support length" is entirely different from that of Paquette. In the Paquette disclosure, the bar 30 has as its sole purpose the mounting of the shaft. (Abstract, lines 5-9; Col. 1, lines 45-49; Col. 2, lines 43-46; and ALL claims) The

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applicant's rear weight has absolutely no direct connection with the shaft. Thus, Paquette teaches away from the applicant's invention. Likewise, Paquette teaches at Col. 3, lines 39-41, that the head of putter is supported by a two-point connection which can be used to reduce the torque effect. Paquette actually is supporting the striking face and body from the bight of attachment bar 28, 30, and legs 32 and 34. This is just the opposite of applicant's teachings that a free-end weight, secured at its center, not its ends, to a single central support extending rearwardly from the rear side of the clubhead opposite the sweet spot, will aid in correcting for miss-hit putts.

The applicant has submitted declarations which support favorable results achieved by applicant's putter in the declarations of Dr. Brodsky, Mr. Brown and Dr. Somerville, and Mr. Olliff. Perhaps Paquette has favorable results, as well. If so, that would normally mean that there are two ways to improve putting by opposite structures. That should mean that each inventor is entitled to effective patent protection for his contributions, not that one's teaching of an opposite design could prevent another from obtaining protection for its contribution.

To the knowledge of the declarants and the undersigned, the Paquette putter has not been seen, while the Finn concept is presently being heralded by leaders in the industry--strong evidence of nonobviousness.

Claim 5 defines a weight support length that is longer than the sole plate is deep, just the opposite of Paquette's short supports 32 and 34. So, claim 5 could not have been obvious from consideration of Paquette. Again, an opposite teaching. Claim 5 is

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also believed allowable because it is dependent upon claim 1.

Claim 6 - Rejected on Paquette, supported also by the Examiner's statement as to claims 6, 10, and 21, that it is "a mere matter of design choice" as in claim 1 above.

Claim 6 is believed allowable because of its dependency from claim 1 and because Paquette's member 30 is not located as claimed, namely, above and to the rear of the body. Paquette's element 30 is not above the blade 14 and not to the rear of the sole flat portion 18. Again, an opposite teaching, ignoring the language of the claims in opposition to the standards set forth in MPEP 2143.02, based upon *Stratoflex, Inc. v. Aeroquip Corp.* 713 F2d 1530, (Fed. Cir. 1983), 218 USPQ 871.

Claims 7, 9, 13, and 22 were similarly rejected by the Examiner.

Claim 7 - Rejected on Paquette is dependent upon claim 1 and so this rejection is also based on the assertion that the "single central support member", as compared with other supporting means, such as a pair of legs (32, 34) is "an obvious matter of design choice".

As to claims 7, 9, 18, and 22, it was asserted by the Examiner that Paquette shows recesses (46, 48) "functionally equivalent to the bore to accommodate the legs or support member". As to claim 7, as amended, it is believed that Paquette's recesses 46, 48 are not literally or functionally equivalent to applicant's recited bore "through the center of the striking face". There is no suggestion of a support having one end

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"exposed to said striking face." They are recesses, not a bore, and are not located in the claimed location whereby the ball properly hit will actually strike the support, or at least, the club face directly opposite the support.

Claim 7 is dependent upon claim 1 and believed to also be allowable because it is dependent upon claim 1 and because it includes the above described "bore through the center of the striking face", unshown, untemplated by Paquette.

Claim 22, previously allowed over Paquette, recites that the "clubhead striking surface portion includes a bore extending therethrough from said recessed portion to the center of said striking face". No similar or equivalent structure appears in or is suggested by Paquette. These rejections ignore the claim language and the function provided and are improper in view of Stratoflex and the MPEP, supra. Therefore, the rejection of claims 7, 9, 18, and 22 should be withdrawn. Such action is respectfully requested.

Claim 9 - Rejected on Paquette. This rejection is also based on the claim 1 rejection rationale that the support structure for the weight is "a mere matter of design choice". This rejection is also augmented by the further assertion that Paquette's recesses are "functionally equivalent to the bore". Applicant contends that neither assertion is supported for the many reasons given above.

Claim 9 is believed allowable because it is dependent upon claim 5 and ultimately upon claim 1. This claim has also been amended to recite, "said body

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includes

a bore through the center of the striking face and

one end of said support is aligned in said bore in a position to contact a golf ball."

Neither of these features are present or suggested by Paquette. This clearly distinguishes over Paquette as described above.

Claims 18 and 22 have recitations similar to claims 7 and 9 and are dependent upon claims 14 and 20, which are discussed below.

The recesses of Paquette are not a bore, and they are not positioned as described, so claims 7, 9, 18, and 22 are believed to define over Paquette both on their own and because of the language of their parent claims and should be allowed.

Claim 10 - Rejected on Paquette. This rejection is also based on the assertion that the support structure for the weight (and the arrangement of the weight on the support) is "a mere matter of design choice".

Claim 10, dependent upon claim 1, has been amended as discussed above in response to the Examiner's §112 rejection. It is also believed allowable because dependent upon claim 1 and also because Paquette's support legs (32, 34) for attachment bar 28 do not suggest a central support which "extends above and to the rear of the top surface of said body" as now claimed, totally foreign to Paquette in structure, concept or operation.

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Claim 14, which is an independent claim, has also been rejected on the basis that it is "an obvious matter of design choice" whether the weight member is supported by a single-supporting member or a plurality of supporting members.

This claim recites, inter alia, "a support spaced above said soleplate having a first end . . . extending perpendicular to the rear face of said clubhead opposite the sweet spot thereof" and "a second end". Paquette's legs 32, 34 do not extend from "the rear face of the clubhead opposite the sweet spot thereof", as now claimed. His elongated attachment bar 28 is not "secured to the second end of said support and centered thereon". Nor are the ends of his attachment bar "cantilevered from the point of attachment of said weight member to said support such that the ends of said weight are unsupported". If the ends of Paquette's attachment bar were unsupported (by being unconnected to clubhead 12), Paquette would wholly fail to achieve his desired objective of a two-point suspension of the head on handle shaft 26. See Paquette at Col. 3, lines 39-41.

The Paquette legs 32 and 34 engage the attachment bar 30 at the ends of the bar exactly the opposite of where the applicant wants and so specifies in claim 14 that the ends are unsupported. It is believed that claim 14 clearly defines over Paquette, which teaches away from the claimed structure and would require a total rebuilding (and sacrifice of basic intended purpose) to meet the terms of claim 14. Therefore, claim 14 and its dependant claims are properly allowable.

Paquette's attachment bar 28 clearly is not "cantilevered from its point of

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attachment to said support such that the ends of said weight member are unsupported".

The purpose of applicant's weight structure is to compensate for an off-center hit. The reference to Paquette's specification cited by the Examiner (Col. 1, lines 16-25) at page 3, Paragraph 2, last line, actually describes the problems of center-shafted putters. But, Paquette's construction for reducing the struck ball trajectory dispersion referred to is substantially different from that of applicant and this difference appears in the claims. Paquette attaches the shaft to the clubhead 12 at two spaced points via the attachment bar 28 and legs 32, 34 with their U-shaped central or bight portion 30. This is totally different from the rear center supported cantilevered weight ends of the applicant. Again, the bight portion 30 of Paquette putter is not a weight, only a part essential to attach the shaft to a lighter weight putter!

The applicant's invention does not require any specific hosel location to compensate for miss-hit putts. In fact, the applicant's invention is illustrated in the drawing figures with a heel-end hosel, the location where every putt introduces torque on the shaft, as compared with center-mounted shafts of Paquette and certain of the other references. See Guthrie et al. U.S. Patent 5,700,207 and Baker U.S. Patent 5,716,290, which were parenthetically referenced by the Examiner on page 2, last line, but not relied upon in the rejection. The applicant's invention is equally useful irrespective of location of the hosel or shaft attachment. See Dr. Brodsky's Declaration, paragraph 10 b and c.

Claim 15, dependent upon claim 14, recites that the "support and weight

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members are . . . generally T-shaped and are cantilevered from the point of attachment of said support to said rear face". Paquette describes his shaft attachment bar 28 (with legs 32, 34) as "generally U-shaped", Col. 2, lines 42-51. See Fig. 2 of Paquette and do not rely upon Fig. 1, which appears to show member 38 separated from bight portion 30. In the absence of substantial evidentiary support from the Examiner, it is believed unreasonable to equate these structures as "an obvious matter of design choice". This claim is believed allowable along with head claim 14, and also because it further distinguishes over Paquette in actual claim language, which cannot be ignored.

Claim 18 is dependent upon claim 14 and believed allowable for the same reasons. In addition, this claim now recites that the "clubhead includes a bore extending therethrough" and that "one end of said support is secured into said bore and exposed at said striking face". No such structure is remotely suggested in Paquette and this claim is believed allowable.

Claims 20-22, 26, and 27 were previously allowed by Supervisory Examiner Glenn Calderolia in the Advisory Action dated February 25, 2004, but are now again rejected over the same reference with effectively the same assumptions or assertions. A renewed allowance is believed to be fully warranted. In the interest of completeness of this response, the reasons for allowance are reasserted.

Claim 20. This independent claim was also rejected as unpatentable over Paquette with the assertion that the support structure for the weight is "a mere matter of design

choice".

Claim 20 now recites "means for attaching said clubhead to said shaft". Claim 20 recites "a single support shaft spaced above said soleplate and extending perpendicularly rearwardly from said recessed section and centered on the rear side of said striking face portion". With the weight support shaft, as described, and the weight member centered on the support shaft and unsupported at its ends, the effect of a miss-hit is to create a moment arm tending to turn the clubface, which is compensated by the cantilevered "T-bar" structure. See applicant's specification, Page 8, lines 5-12, and Fig. 4, for the applicant's understanding of how the club is able to demonstrate superior putting performance. See also Dr. Brodsky's Declaration, which perhaps more elegantly describes this difference, as compared to the self-trained accomplished inventor, C. Finn. There is no hint or suggestion of such compensation by a centrally supported cantilevered weight in Paquette's specification. For these reasons and the support of four expert declarants, claim 20 is believed to clearly define over Paquette and is again properly allowable.

Claim 21 is dependent upon claim 20 and is believed properly allowable along with its parent claim. In reciting that the "support extends from the top of said rear surface of said clubhead", this claim, which reads on the embodiment of Figs. 5 and 6, further distinguishes over Paquette. Paquette's supports (legs 32, 34) extend from near the center (vertically) of the rear surface of the striking face, not from the top, a clear structural limitation, which cannot be ignored.

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Claim 22 is dependent upon claim 20 and recites that the clubhead includes a bore extending therethrough "from said recessed portion to said striking face portion" and that "said support is secured into said bore and aligned with the sweet spot of said striking face portion". No such structure is remotely suggested in Paquette and this claim is believed allowable for the same reasons stated in claim 20 and claim 9.

Claim 24, dependent from claim 20, recites that the support shaft and weight member are cantilevered from the point of attachment of said support to said recessed section. No such structure is shown in Paquette, and this claim is also allowable based upon the novelty of claims 20, 2 and 15.

Claim 26 is dependent upon claim 20 and remains as originally written. Claim 26, calling for the shape of the weight to be cylindrical, is believed allowable along with claim 20 as defining the preferred shape to produce the required dynamic effect.

Claim 27, also dependent upon claim 20, recites that the "support shaft is of such length that said weight member" is "displaced rearwardly from said striking face by an amount greater than the width of said soleplate". This displacement in the Finn putters locates the weight well beyond the structure, function, and conception of Paquette. Paquette's attachment bar 28 (not labeled anywhere by Paquette as a weight), primarily serves as a connection for the handle shaft. A change from the disclosed arrangement of Paquette is totally outside of Paquette's teaching and can only be said to be rebuilding Paquette to match Finn's teaching---improper hindsight rejection. Structurally, the bight portion 30 of Paquette does not extend rearwardly by the claimed

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amount. This claim is believed to clearly distinguish over Paquette by reasons of all of the distinctions of claim 20 and this claim 27.

Claim 33. This independent claim was also rejected as unpatentable over Paquette with the unsupported assertion that the support structure for the weight is "a mere matter of design choice".

This claim distinguishes over Paquette in reciting that the "elongated weight member" is "attached at its center to said support with said weight member being evenly balanced on opposite sides of its attachment to said support, said weight member being unsupported at its ends". It is clear that Paquette's attachment bar is not "evenly balanced on opposite sides of its attachment to said support". It is believed that the above recitations clearly define over Paquette. The declarations of Dr. Bob Brodsky, Mr. Jim Olliff, and of Dr. Tim Somerville and Mr. Kent Brown, all support the novelty and fundamental difference of this claimed invention.

Claim 34, dependent upon claim 33, is believed allowable along with its head claim, called for a rearwardly extending support, above the soleplate, centered on the striking face with a balanced weight on the support above the soleplate, and unsupported at its ends, and extending parallel to both the striking face and the soleplate (incorporated in claim 33).

Claim 35 has been previously cancelled.

Claim 36 is dependent upon claim 33 and adds that the unsupported ends of

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"said weight member are cantilevered from the point of attachment of said weight member to said support". As stated above, it is believed that this recitation of cantilevered support of the weight is scientifically correct and clearly defines over Paquette.

New claim 37 recites "a single support member spaced above said soleplate and cantilevered rearwardly from said rear side of said clubhead". It further recites:

"An elongated weight member secured to said support shaft and centered thereon, said weight member . . . unsupported at its ends, whereby an impact with a ball on the striking face portion creates a moment arm tending to turn the clubface which is substantially compensated by the inertial action of the cantilevered support shaft and weight member."

It is believed that the above structural recitations clearly define over Paquette, which has no cantilevered support shaft and weight member cannot provide the claimed "compensation". Paquette teaches that two spaced points of attachment of the center-mounted shaft to the putter body, without any addition of weight, produces a degree of miss-hit compensation, a teaching totally different from the applicant.

New claim 38, after reciting "a back side and a generally horizontal soleplate" recites,

"A support member spaced above said soleplate and having a longitudinal axis extending rearwardly from said back side aligned with the sweet spot and a weight member secured to said support member above said soleplate and symmetrically disposed about the longitudinal axis of said support member."

Paquette's support bar 28 is certainly not "symmetrically disposed about the longitudinal

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axis of either of his support members 32 and 34. This defines the structural distinction from Paquette and allowing the functional difference just described to exist. Claim 38 is, therefore, believed allowable over Paquette.

New claim 39 is believed to define over Paquette in reciting "said weight member being supported at its center with each end of said weight member being cantilevered from its point of attachment to said support member". The attachment bar of Paquette is not a weight and not cantilevered from its supports and works different, as described above.

New claim 40 is dependent upon claim 39 and recites that the "clubhead is a putter head". This claim further defines the combination of claim 39, which is drawn to "a golf clubhead". This claim is believed allowable along with head claim 39 since the preferred application of the applicant's concept is for putters, but not necessarily so limited. Claims 39 and 40 should be allowed.

New claim 41 is dependent upon claim 39 and recites that "said face member has a sweet spot and said support member is coupled to said clubhead directly behind the sweet spot of said face member". This is in directly the opposite teaching of Paquette; and if Paquette's putter were so rebuilt, it would not follow his teaching of the merit of spaced two-point mounting of the shaft support. This claim is believed allowable along with claim 39.

New claim 42 is dependent upon claim 33 and recites that "each end of said weight member is cantilevered generally laterally from its point of attachment to said

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support". Paquette's bar 28 is not so cantilevered and for the reason given above with respect to claims 33 and 41 should be allowed.

New independent claim 43 defines over Paquette in reciting "a support member having a first end and a second end" with "said weight member attached at its center to said support member second end", and "the ends of said weight member being unsupported and cantilevered from the point of attachment of said weight member to said support member second end". In this claim, it is believed that the language describing the support member as having a "first end and a second end" and with the weight member "attached at its center to said second end" precludes any attempt reading this recitation on Paquette with his two separate supports for bar 28. The claim further recites, "the ends of said weight member being unsupported and cantilevered from the attachment of said weight member to said support member second end". Paquette's bar 28 does not have unsupported ends, which are cantilevered as claimed.

New independent claim 44 defines over Paquette in reciting;

"the putter including an elongate weight member which has end portions disposed substantially symmetrically relative to its mid-length, the weight member being disposed rearwardly from the clubhead striking face and disposed substantially symmetrically relative to the striking face laterally from the mid-length of the weight member."

Paquette's attachment bar does not have end portions so disposed nor is it "disposed substantially symmetrically . . . laterally from the mid-length of the weight member." The claim further recites "the weight member end portions extending in unsupported cantilever manner from the connection of the support to the weight

Serial No. 09/934,967

member". This clearly defines over Paquette where the ends of his attachment bar 28 (or bight 30) clearly do not extend in unsupported cantilever manner. Claim 44 is, therefore, believed properly allowable. Paquette lacks any "weight" and actually produces a lighter weight putter. See previous citation to Col. 3.

Claims 45-49 are all directly or ultimately dependent upon claim 44 and are believed allowable therewith.

Claim 45 defines the support to the weight member as "aligned substantially normally from the clubhead striking face with a sweet spot of the clubhead". Paquette's supports (32, 34) are clearly not so aligned.

Claim 46 defines the connection of the support to the clubhead as "aligned substantially normally from the clubhead striking face with a sweet spot of the clubhead". Neither of Paquette's supports from head 12 (legs 32, 34) are aligned with a sweet spot of the clubhead because of their spacing on opposite sides of the sweet spot. Claims 45 and 46 each serve to define the precise structural relationship of the clubhead to applicant's weight and its support. Again, these claimed relationships are structurally and operationally the opposite from the Paquette.

Claim 47 is dependent upon claim 46 and effectively combines the limitations of claims 45 and 46 and is believed allowable for the same reasons above and for its parent claim 44.

Claims 48 and 49 are dependent upon claims 47 and 44, respectively, and are believed allowable for the same reasons.

Serial No. 09/934,967

These additional claims are drawn in a further attempt to define the applicant's invention precisely and in a form acceptable to the Examiner.

It is believed that claims 1, 2, 5-7, 9, 10, 14, 15, 17, 18, 20, 21, 22, 24, 26, 27, 33, 34, 36, and 37-49 are totally proper, distinguishing from all the prior art considered and particularly from the sole reference, Paquette, relied upon for rejection are in condition for allowance and passage of this application to issue is requested.

Previous Restriction Requirement

Following an original six species restriction requirement, the following claims were withdrawn from consideration 8, 12, 16, 19, 25, 28, 29, and 30-32. Upon the allowance of the independent claims of this application, it is respectfully submitted that generic claims will then have been allowed and that the withdrawn claims should be reconsidered allowable as well. Some of the withdrawn claims, namely, claims 8, 16, 19, 25, and 28-32 defines the applicant's invention where the free end cantilevered weight is located within a chamber or cavity where it operates in the same manner as the exposed weight. This is the same concept, only esthetically different, not a different invention. Therefore, these claims are believed to be properly allowed in this application, as well. Such action is respectfully requested.

Claim 12, dependent upon claim 1 (Figs. 12 and 13), calls for the external weight of claim 10 secured to the soleplate. This is a variation of the same invention, not a separate invention, and should remain in this case and be allowed with claim 1 as

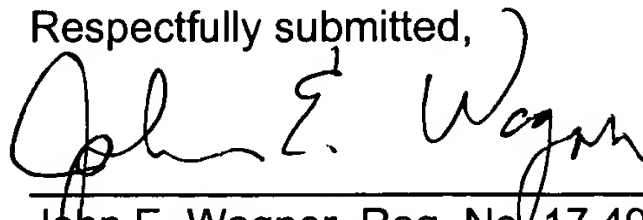
Serial No. 09/934,967

amended.

Extension of Time

A Combined Amendment & Petition for Extension of Time (Small Entity) for a two-month extension of time and for 24 additional dependent and 7 additional independent claims is enclosed, along with our check for \$727.

Respectfully submitted,



John E. Wagner, Reg. No. 17,496
LAW OFFICES OF JOHN E. WAGNER
3541 Ocean View Boulevard
Glendale, CA 91208
(818) 957-3340

RCS/JW:mm

Enclosures: Declarations:

Dr. Robert Brodsky - Exhibit A
Mr. Kent J. Brown and Dr. Kim Somerville - Exhibit B
Mr. James Olliff - Exhibit C
Mr. Charles A. Finn of Nov. 14, 2003 - Exhibit D
Webster's New Collegiate Dictionary Excerpt - Exhibit E
Analysis and Design of Steel Structure Excerpt - Exhibit F
In re Chu 36 USPQ2d 1089 @1094,5 (CAFC) 1995 - Exhibit G

Combined Amendment & Petition for Extension of Time (Small Entity)
and \$727 Check

I:\Patent\Finn\64.AMENDMENT B



DECLARATION OF ROBERT F. BRODSKY

I, Robert F. Brodsky, do hereby of aver and state:

1. I hold a Bachelor's Degree in Mechanical Engineering (BME) from Cornell University, a Master of Science Degree in Mathematics from the University of New Mexico, a Master of Aeronautical Engineering from New York University, and a Doctor of Science (ScD) Degree in Engineering from New York University.
2. My professional careers have been primarily in aerospace engineering, mechanical engineering, aerospace education, and lecturing.
3. My engineering experience began with the Sandia Corp. in Albuquerque, New Mexico, and primarily involved aerodynamic structural design. I then became Chief of Aerodynamics for Convair in Pomona, California, followed by Chief Engineer for Space General Corp. in El Monte, California. I was later the Director of Technology Planning at TRW in Redondo Beach, California, and later Chief Engineering Consultant for Microcosm, Inc. in El Segundo, California, and a three-day seminar lecturer in the U.S.A., Europe and Israel.
^{AND}
^{^ (RFB) 7/21/04}
^{AND}
^{(RFB) 7/21/04}
4. I was a Professor and Head of the Aerospace Engineering Department at Iowa State University in Ames, Iowa, from 1971 to 1980 and later Adjunct Professor of Aerospace Engineering at the University of Southern California from 1982 to 1996

and continue to advise and assist that department.

5. In my experience as a Professor, I taught the fundamentals of static and dynamic system design. As Chief Engineer and as acting Manager of the Mechanical Design Department, I had to supervise and evaluate such systems. In addition, I have been a registered Professional Engineer (of Mechanical Engineering in the State of California and of Aerospace Engineering in the State of Iowa).
6. My patent experience includes Chairman of the Invention Evaluation Committee at Space General Corporation where I was responsible for evaluating possible inventions from the scientific and patentability standpoint. I have acted as an expert witness on issues of structural design of aircraft components and as a technical expert on at least one occasion to evaluate claims of a patent for scientific soundness and patentability, as compared with the state of the prior art. I was also a joint inventor of a space personnel recovery system, which was featured in Time Magazine in 1963.
7. I grew up on a golfing family. In my younger days, I shot in the high 70's as a golfer. My mother was rated as the #2 women's golfer in the greater Philadelphia area. My father was a duffer but shot in the low 80's.
8. In April 2004, I tried the Mickey Finn T-Bar putter and compared it with other contemporary putters. My report is attached hereto as Exhibit A. I have also

compared the Mickey Finn T-Bar putter with Mr. Finn's patent application, Serial No. 09/934, 967, and find that the patent application Figs. 1-4 and accompanying text accurately discloses the structure and operation of the T-Bar putter which I tested.

9. I have also reviewed U.S. Patent 5,308, 069 to Paquette and compared that patent's drawings, and description to the application of Mr. Finn, including the Finn claims, attached hereto as Exhibit B, which I understand are currently presented for evaluation in the U.S. Patent & Trademark Office.
10. From my comparison of the disclosed putter from Mr. Finn's application, his commercial T-Bar putter, and the prior art, in particular U.S. Patent 5,308,069 to Paquette, I have reached the following conclusions:
 - a. Patent application Serial No. 09/934, 967 accurately discloses the Mickey Finn T-Bar putter, which I examined and test played.
 - b. The single-centered support for the weight and the freedom of the ends of the cantilevered rear weight is fundamental to the originality and novelty of the putter and is essential in aiding the player in putting by providing a degree of compensation counteracting the torque on the club shaft of ball contact due to the shaft's attachment to the clubhead at one end of the clubhead.

c. The position where the shaft is attached to the putter head or body is not essential to the provision of the compensating torque provided by the T-Bar when the ball is struck, nor is the shape of the "T" bar so long as it is cantilevered with its ends free.

d. This is all in direct contrast with the putter design shown in U.S. Patent 5,308,069 to Paquette for several reasons. The most important reason is that the Paquette weight 30, positioned at the rear of the putter, is rigidly secured to the putter body by peg portions 32 or 34, or 50 and 52, at both ends. Weight 30, therefore, is not capable of providing compensating inertial moments about the club shaft. The weight 30 of Paquette is merely added mass at the rear and acts as a point for attachment for the shaft. It has no dynamic action ^{CAPABILITY (MEM) 7/21/04} vis-à-vis the club shaft torque.

7/21/04
(LH)
POSSIBLE

e. Not only is the Finn putter different in structure, operation, and appearance from the Paquette putter, but from the structural standpoint, the Finn weight member is cantilevered from the putter head and is free to vibrate like a tuning fork, while the weight member 30 and its peg portions 50 and 52 of the Paquette patent form a U-shaped end supported beam. The Finn weight structure 26 is a center rod supported cantilevered "T" bar weight. The two are fundamentally different engineering structures and neither one would or should be considered to suggest the other as merely choices in design. The Paquette putter design precludes the possibility of compensating dynamic

inertial interaction.

- f. As an engineer, designer, inventor, experienced golfer, and professor of static and dynamic structures, it is my opinion that the Finn invention would:
 - 1. never be arrived at by study of the Paquette patent;
 - 2. would not be obvious from Paquette; and
 - 3. it is not the result of a mere matter of design choice.

- g. In testing of the Mickey Finn T-Bar putter with golfers, as described in Exhibit A, we each noted distinct sounds when striking the ball with a T-Bar putter. I also noted that I heard a slightly different sound when the ball was struck away from the sweet spot where the "T" bar is connected to the putter body by its support, as compared with the ball being struck towards the toe or towards the heel. I deduced this to mean that the cantilevered weight structure was acting as a resonant body somewhat like a tuning fork and thus performing as designed. To further amplify, the compensating torque developed by the "T" bar dynamic action is in direct proportion to the "upsetting" torque which itself is a function of where along the clubhead the ball is struck. The sound produced by the hit varies in frequency as a function of the input torque.

h. In my opinion, when the ball is struck by the putter anywhere along the face of the club, and when the shaft is not attached at the middle of the clubhead, a clockwise torque around the shaft develops, tending to turn the wrist of the stroker. In the Finn design, this counterclockwise rotation is counteracted or compensated (after a very short time delay) by an inertially ^{PRODUCED} ~~equalized~~ (LEN) 11/21/04 counterclockwise torque due to the cantilevered attachment of the T-bar. This relieves the stroking-induced torque on the golfer's wrist, allowing the follow-through to maintain its intended direction. This developed counterclockwise torque is a fixed percentage of the input torque.

Depending upon the inertial characteristics in compliance of the stem of the T-bar constituting part of its design, this percentage can be anywhere from a small percent number to an ideal 100%. The aft and vertical location, shape and material distribution of the cantilevered weight is a matter of Mr. Finn's design and an infinite number of design variations upon this cantilevered design can be developed to achieve optimum compromise design. If the attachment is not at the same level above the ground as the center of the golf ball, fore or aft torque (in the plane of the "swing") develops which might affect the speed of the putt but the golfer would soon learn to adjust for it. None of these characteristics would appear to me to be either present or described or fall within the teaching of U.S. Patent 5,308,069.

For the foregoing reasons, it is my opinion that the Paquette patent would in no way teach the Finn invention of his application and would in no way be an obvious matter of choice or design but is rather an important and inventive advance in putter design and should be granted a patent.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Executed this 21st day of July 2004 at RANCHO BLANCH, CA 90277.

Signed


Robert F. Brodsky

April 23, 2004

JaCK WAGNER Esq:

Report of try out of "Mickey Finn" (pat. pend.) putter (MF)

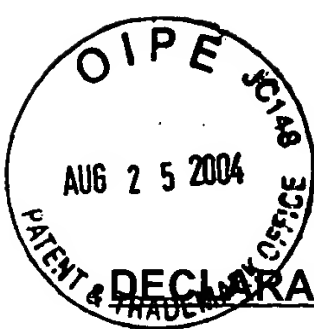
Jack:

On Monday, April 19, 2004, and old friend and 10 handicap golfer Vic Brenes and I attacked the putting green of the Los Verdes Golf Club in Palos Verdes armed ^{WITH} the Mickey Finn club and two of Vic's putters; all three being of significantly different design. The MF putter was tried out by Vic and another two casual curious friends, as well as by myself;

Vic and friends were all very pleased by the putter's accuracy both for 4-5 foot and 8-10 foot lies. In particular, they noted the contact noise was unlike anything they had ever heard. All three agreed that they thought that they could learn to love the club.

I tried it out at the same distances. Recall that although I did consistently shoot in the high 70's when I was a lad, I have played only sporadically in the past few years so my putting skills are not finely honed. I tried all three clubs and did find that I did best with the MF club, particularly when I stroked at the shank or the toe of the club head – but alas I did not sink many. Surprisingly, when I used the MF club as a 'lefty', I did better than in my normal right handed stroke even for 'off-sweet-spot' strokes. This certainly supports Mickey's claim that, in principle, it works 'backwards' as well as normally. But it also says I need more practice to regain my former prowess.

Dr. RF Brodsky, PE



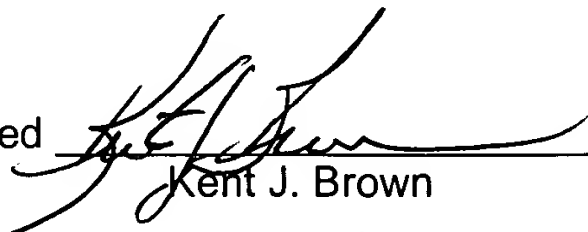
DECLARATION OF MR. KENT J. BROWN & DR. TIM SOMERVILLE

We, KENT J. BROWN and TIM SOMERVILLE, the undersigned, hereby aver and state that we, at the request of Charles Finn, did prepare and the attached letter.

1. All statements in the letter are true and accurate to our best recollection and all opinions are of our sincere belief.
2. Attached is a true copy of the brochure for our Golf College.
3. We have no financial interest in Mr. Finn, his putter, or his business, nor have we received any payment of any kind from anyone for our opinion.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Executed this 21 day of July 2004

Signed 
Kent J. Brown

Executed this ____ day of July 2004

Signed 
Dr. Tim Somerville



**PROFESSIONAL
GOLFERS
CAREER
COLLEGE**

"Educating the future leaders in the world of golf."

To Whom It May Concern,

We the undersigned, Kent Brown and Tim Somerville, are the founders of the Professional Golfers Career College. We declare that the following is true, and accurate to the best of our recollections:

We first met Charles (Mickey) Finn about 10 years ago when he was creating innovative drive technology which he subsequently patented. Sometime during the summer of 2001, Mickey brought us his T-Bar putter for testing, and explained to us how the rear-suspended T-Bar helps to straighten miss-hit balls.

We both examined and tested the T-Bar putter and we can assure you that it does work as Mickey Finn describes. We've never in all our professional experience in golf and the golf industry seen anything in the field that is the same or similar to the Mickey Finn T-Bar putter.

We immediately noted when putting with the T-Bar putter that it produces a distinct sound when putting properly, striking the ball at the sweet spot. It produces a different sound when striking a ball either towards the toe or towards the heel. We believe this sound is the result of the free suspension of the Mickey Finn T-Bar weight, and the difference between the two sounds is an important and valuable feature of the T-Bar technology that lets golfers know when they've hit the ball off center.

We are aware that, since the Mickey Finn T-Bar putter entered the market, other manufacturers have begun to produce rearward-extending, free-end-weighted putters. In our experience these knockoff putters attempt to copy the visual design of the Mickey Finn T-Bar putter, without fully understanding the technology behind that design. It is clear to us that Mickey Finn invented this technology, while others have only attempted to copy it with varying degrees of success.

We have reviewed the patent issued to a man named Paquette, and see that he has a U-shaped bar at the rear of the putter body which is used to attach the shaft. We've never seen or heard of such a putter on the market, so we could not test one and compare it to Mickey's putter. However, based upon our experience, no one looking at the Paquette patent would associate it with the T-Bar putter concept or design.

It is our opinion, based upon years of experience in golf, that the Mickey Finn T-Bar putter is an important advance in putter design and entitled to patent protection.


Kent J. Brown


Dr. Tim Somerville



DECLARATION OF JAMES W. OLLIFF

I, JAMES OLLIFF, hereby avert and state:

1. I hold a degree in Engineering Technology from California State University Pomona received in 1975.
2. I have worked in the engineering field involving sound, and particularly have had over eight years of experience in amateur radio dealing with audio signals, signal processing, radiation, and the like. I also have had over 10 years machine shop experience in our family machine shop business and have operated many different machines and have operated and am familiar with metal fabricated products and complex production equipment.
3. Recently, I learned of the engineering issue with respect to the putter known as the "Mickey Finn T-Bar Putter" and that some players had observed a distinctly different sound when the ball was struck at the sweet spot, which is the intended point of impact as compared with the effect of the ball being struck towards the toe of the T-Bar Putter or by the heel.
4. I was asked if I could measure and quantify to an extent any difference in sound, which was observed by players, and provide any explanation.

5. As soon as I saw the putter and examined the rear support and transverse weight member, it reminded me of a tuning fork in structure and I suspected that any sound difference was the result of the impact force being applied either directly to the base of the "T" or offset.
6. I reviewed several technical reference source, two of which I was familiar from my college training and pertinent statement are set forth in my memo on the Mickey Finn putter dated June 17, 2004 (Exhibit A).
7. I also studied the description of the structure shown in Fig. 1 of the U.S. Patent 5,308,069 to Paquette in which there is a member 30 suspended at both ends from the rear face of a putter by two supports 32 and 34. This U-shape forms a bridge.
8. I was asked, if in my opinion that U-shape structure was the structurally or just "an obvious matter of design choice" equivalent to the T-shape structure of the Mickey Finn T-Bar Putter as shown in the Mickey Fin patent application Fig. 1. It is not.
9. My opinion is that the two are absolutely different in their fundamental structure and effect, particularly owing to the fact that the ends of the T-Bar Putter weight are unconstrained and cantilevered from its central support, which in turn is cantilevered from the putter main body.

10. To see if I could verify the sounds which had been experienced by others, I set up a microphone and connected it through the sound card of my computer, which was equipped with sound analysis software produced by a firm Sigview.
11. I personally conducted three experiments with the T-Bar Putter, which is shown in Fig. 1 of Mr. Finn's patent application, striking a golf ball towards its toe, at its sweet spot and toward its heel. The results of these experiments are shown in the form of graph toe #1 center #1 and heel #1.
12. I struck the golf ball at its center, or sweet spot, and produced the graph identified as center #1.
13. Next, I struck the golf ball in the heel region of the T-Bar Putter and recorded the graph, which is plotted as heel #1.
14. I then struck the golf ball in the toe region producing the graph identified as toe #1.
15. Each of these experiments was conducted on carpeted residential interior in a quiet sound environment.

16. In my opinion, the three graphs each showed a significantly different sound characteristic, depending on the point of impact of the club while putting. These illustrate that the free ends of the weight in the T-Bar Putter of Finn act as unrestrained weight sections which actually produce a useful moment for correcting off center ball strikes.
17. When the golf ball is struck as intended at the sweet spot, there is one pronounced acoustic output in a sharp response of approximately 60-70 Hz having a relative value of 6.3. This response was followed by a series of peaks of amplitude 2.1 or lower up to a frequency of approximately 500 Hz followed by noise responses of a relative level of 0.7. There was only one distinct peak.
18. When the golf ball was struck on the toe region, there was a peak in the order of 60-70 Hz reaching a relative level of 4.2, which is followed by a pronounced peak nearly equal in size but greater volume at about 240 Hz. This secondary peak was accompanied by other peaks, several of which exceeded levels of 1.5 with one at 2.5. The peak at 240 Hz was at least equal in volume with the correctly hit ball of paragraph 17.
19. The curve shown in heel #1 drawing shows the peak at approximately 210 Hz at a level of 2.1, but the fundamental peak of about 60-70 Hz barely attained 1.2 relative level. The conclusion is the sound emitted on striking a correctly struck ball was definitely different from that of striking the ball off at the toe or the heel.

20. In my opinion, this demonstrates that the T-shaped weighted member is indeed a resonant structure responsible for the sounds detected by players.
21. From the engineering standpoint and acoustic standpoint, it is my opinion that the structure shown in the Paquette patent is neither structurally the same or operationally the same.
22. No sample of a Paquette-type putter was available to me.
23. The absence of the side-by-side comparison does not effect my conclusions stated above that the T-Bar Putter and the Paquette are structurally and operationally distinct.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Executed this 16 day of July 2004

Signed


James W. Olliff

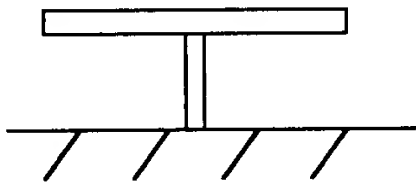
patents/finn/ 64/declaration of James W.Olliff 7/07/04

Comments by Jim Olliff - Engineering Technology Degree 1975 Cal Poly Pomona

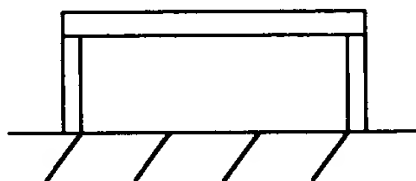
In review of the problem of the T section and the sound generated I make the following observations:

- Forced Vibrations – “In a driven system the Vibration is usually sustained by a respective force acting upon the system.” Resonance is created when the frequency applied is the same frequency as the natural frequency of vibration of the system. At frequencies other than resonance the force out of step will be less effective in adding energy to the system. Per Principles of Physics second edition 1972 by F. Bueche - Pages 280-281
- Transverse waves of a bar clamped in the center, oscillates at a frequency such that a node develops at the point of the clamp. The frequency developed would be based on the length of the bar and could include harmonics. Per Principles of Physics second edition 1972 by F. Bueche - Pages 296-297
- Tuning Fork – “A U shaped bar for hard steel, fused quartz, or other elastic material that vibrates at a definite natural frequency when struck or when set in Motion by electromagnetic means; used as a frequency standard.” Per McGraw Hill Dictionary of Scientific and Technical Terms Third Edition Sybil P. Parker Editor in Chief 1974 - page 1689

In consideration of a T-Section, it will generate a wave based on the normal frequency of oscillation along with harmonics of that frequency of the body.

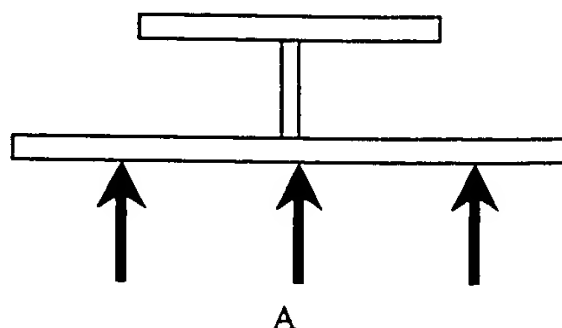


If a U form that is constrained at the ends was considered, the dampening affect by constraining the ends would drastically dampen the waves that could be generated in such a body.



Jim Olliff 7/16/04

If the base of a T section is hit at different points along the base, the expected amplitude of the oscillation will be affected by the amount of force applied. Therefore being off the sweet spot (A) will therefore reduce the expected amplitude and the amount of harmonics generated.



To test these assumptions a simple test was made using a microphone connected to the soundcard of a computer when a golf ball is hit both on and off the sweet spot. Software by Sigview was used to record and display the signal.

Goal:

See if the frequency changes.

Measure at sweet spot and off angle to show that the sweet spot can be defined by sound of hit.

Toe #1 represents hitting near the toe of the club surface.

Center #1 represents hitting near the center or sweet spot of the club surface.

Heel #1 represents hitting near the heel of the club surface

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7/16/09

Heel #1

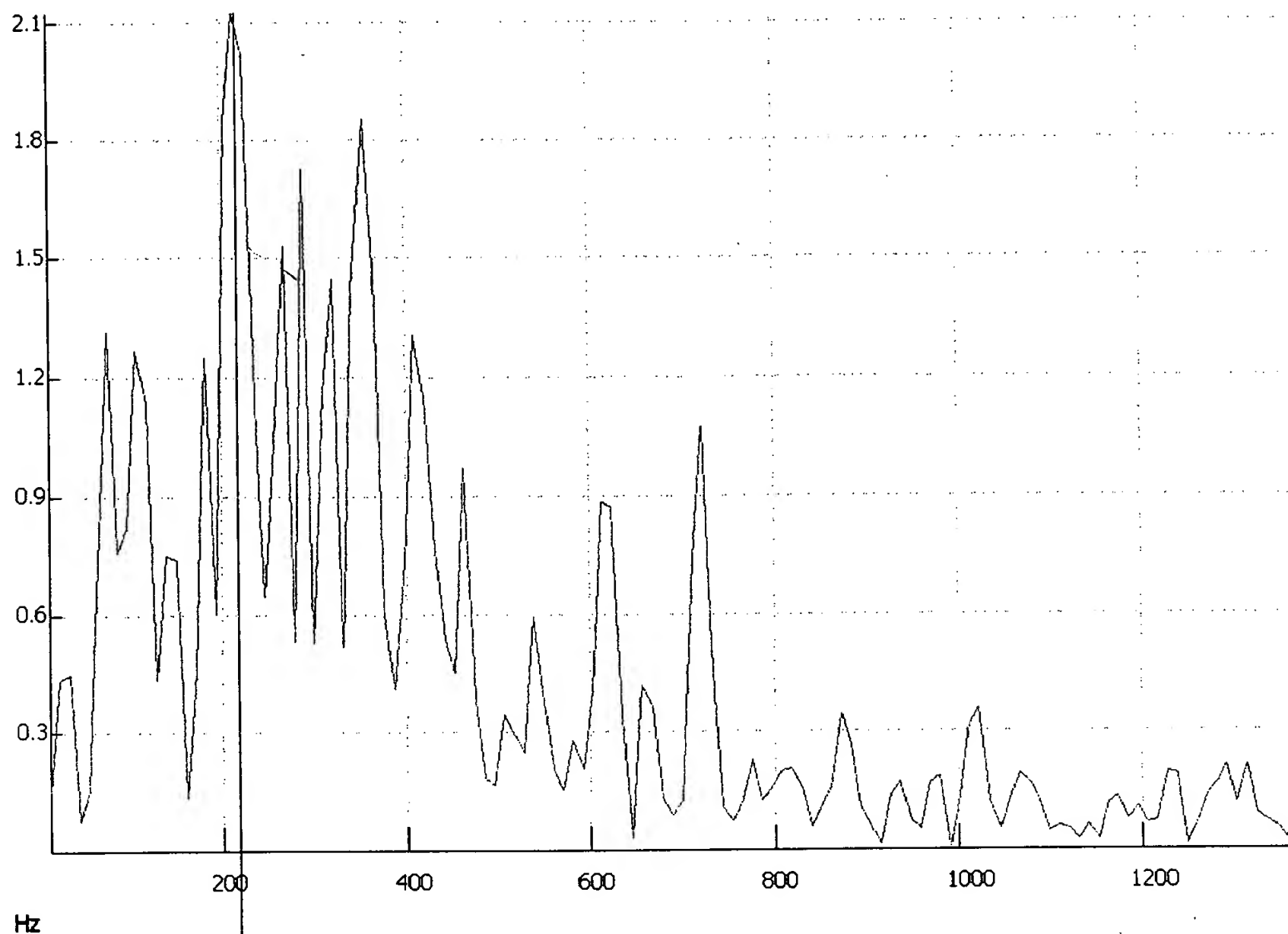


EXHIBIT A
PAGE 3 OF 5

J. H. Dwyer
7/16/09

Center #1

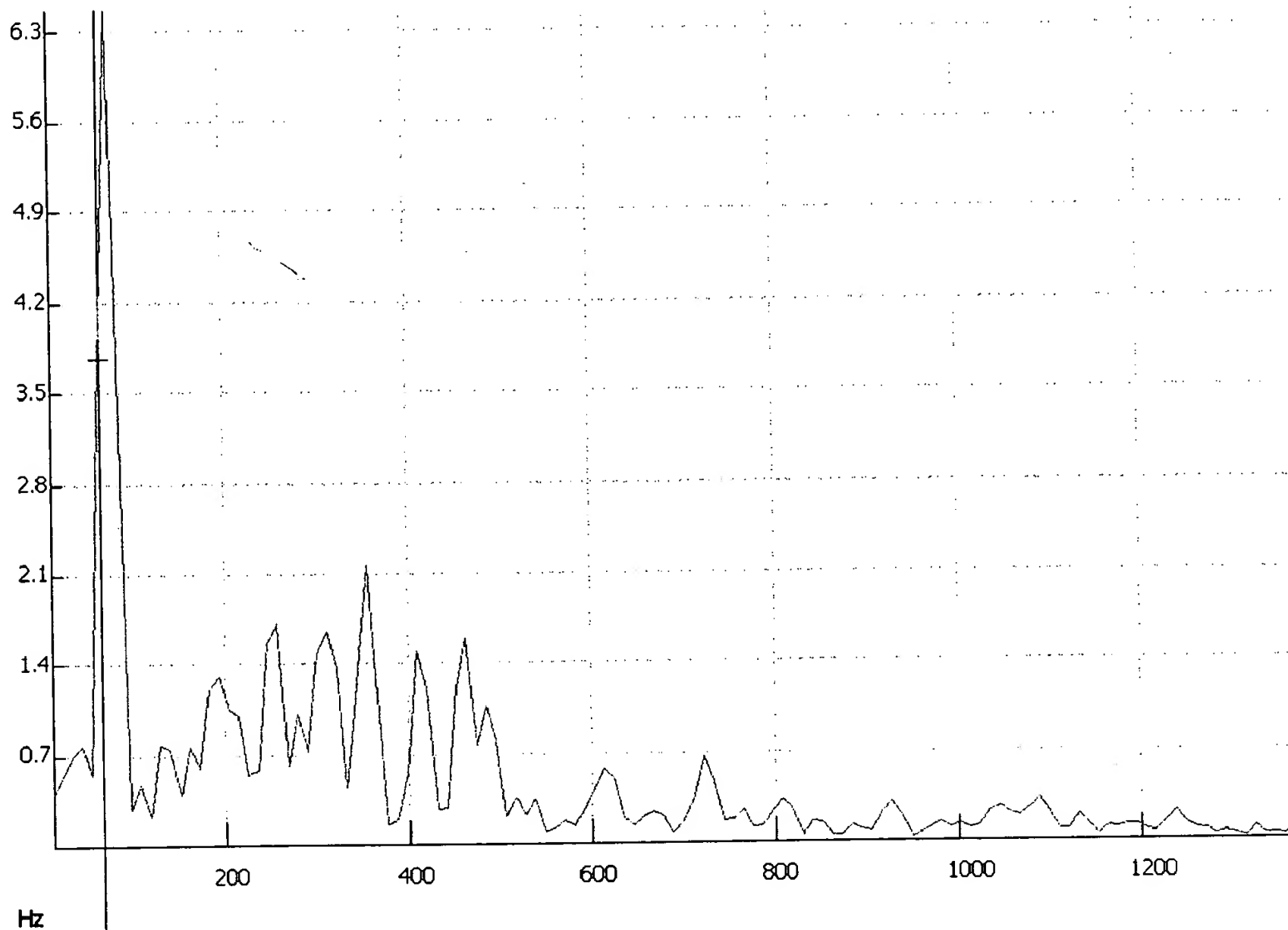


EXHIBIT A
PAGE 4 OF 5

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7/6/01

Toe #1

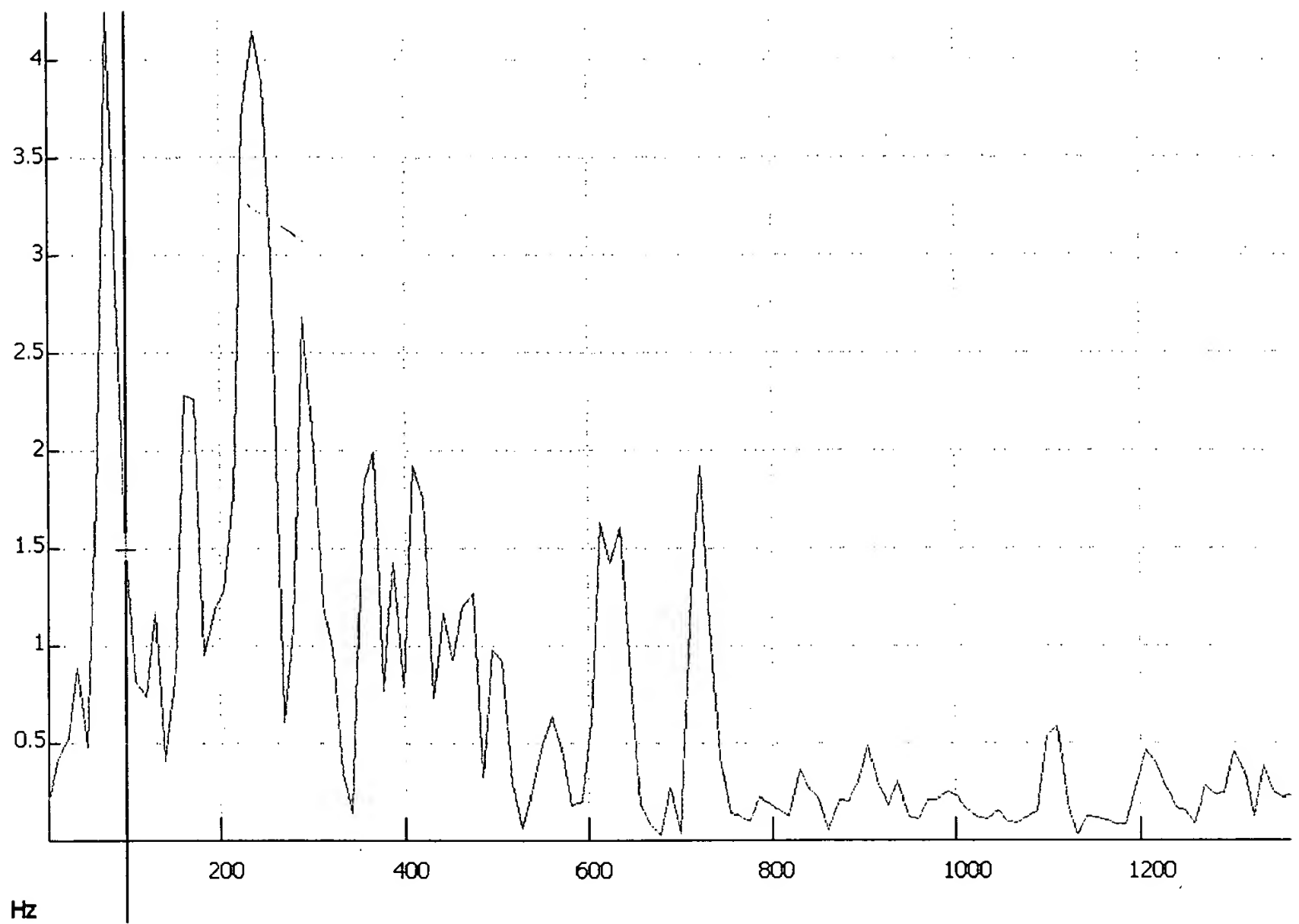


EXHIBIT A
PAGE 5 OF 5

[Signature]
7/16/04

**DECLARATION OF CHARLES A. FINN**

CHARLES A. (MICKEY) FINN, hereby declare and state:

1. I am the inventor of the T-Bar Putter™, which is the subject of U.S. patent application Serial No. 09/934,967 filed August 22, 2001, based upon Provisional Patent Application Serial No. 60/227,741 filed August 24, 2000.
2. Attached hereto is a binder with a cover "The T-Bar Putter™ by Mickey Finn" in which I have gathered together and submitted to my attorney of record October 30, 2003, the following documents:
 - a) My own undated statement to the U.S. Patent and Trademark Office.
 - b) Cover page and testimonial from the sales manual of Progressive Innovations, Inc., which is my retail arm with testimonials from five professional golfers. The testimonials to my information and belief are true and correct.
 - c) A proposed agreement with GLOBAL GOLF dated October 20, 2000, stating provisions which I accepted.
 - d) A copy of the T-Bar Putter™ triple fold brochure.

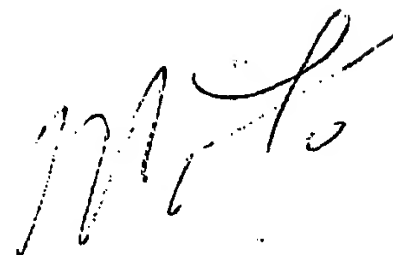
A handwritten signature in black ink, appearing to read "M. Finn", written over a horizontal line.

- e) An excerpt from GOLF WORLD Magazine of March 2, 2001 and page 4 describing the T-Bar Putter™ in a brief article by John Strege referencing use by Arnold Palmer.
- f) The cover of PGA Merchandise Show newsletter dated January 25, 2002, where the T-Bar Putter™ was formally introduced mentioned on the cover.
- g) An additional reference in GOLF WORLD, January 25, 2002, and page 13 describing the T-Bar Putter™ including its feature, which is claimed.
- h) GOLF WORLD BUSINESS, January 25, 2002, page 1, reference to the T-Bar Putter™.
- i) Cover and excerpt from the AFFLUENT GOLFER showing the T-Bar Putter™.
- j) Herrington Publications, Spring 2002, showing the T-Bar Putter™.
- k) Excerpt from Edwin Watts Golf Catalog, Spring 2002, showing the T-Bar Putter™.
- l) Excerpt from GOLF EXTRA Magazine, August/September, showing the T-Bar Putter™.

- m) Sample testimonial letters from James Stammer, Eric Edwards.
- n) A copy of "My Taiwan Patent" cover page.
- o) Letter from United States Golf Association, January 8, 2003, verifying that my T-Bar Putter™ conforms with USGA rules.
- p) A document labeled "Miscellaneous Communications/Magazines".
- q) E-mailed letter from Jeff of kwaj@ragingbull.com.
- r) GOLF Magazine May 2003 showing the Titlist Futura putter, which I believe, falls under claims to which I am entitled.
- s) Copy of September 20, 2002 GOLF WORLD (page 17) article titled "Mallet Madness" further describing putters introduced after my T-Bar Putter™ which I believe fall under claims to which I am entitled.
- t) Copy of November 17, 1986, TIME Magazine cover and page 17 describing one of my previous military inventions.

A handwritten signature in black ink, appearing to be 'M. Finn', is located in the bottom right corner of the page.

- u) Copy of January 5, 1987, PEOPLE WEEKLY Magazine cover and a page showing my military bayonet, which has been adopted by the U.S. Armed Forces.
 - v) Copy of April 1987 BLADE Magazine describing in more detail the U.S. military bayonet, which I invented and patented.
3. This is to certify that each document is either the original or a correct reproduction of what it is identified and all statements and facts made by me are correct and by others on information and belief are true and correct.
4. Each of the exhibits are believed to support a finding of long-felt need and commercial success of my T-Bar Putter™ as well as at least one version arriving on the market after my invention, which I believe falls within the scope of properly allowable claims in my application.
5. Even though my T-Bar Putter™ has just been approved in 2003 by USGA and it has a price double that of other putters on the market, since being introduced on the market, my distributors have sold well over a thousand T-Bar putters in a field which is dominated by endorsed products, such endorsements being a requirement for success.



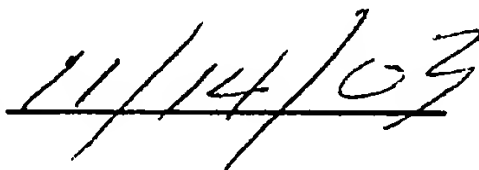
6. This document also describes my previous inventions which have been recognized and have constituted major contributions to our U.S. national defense and economy.
7. My previous inventions also support the fact that I have since turned my attention to inventing in the sporting goods field, particularly golf. I am not a golfer but am experienced and creative in producing mechanical devices of originality and superiority in meeting the needs of the users. Also, I have no connections with any existing major golf company nor have I paid for any endorsements, statements, or the like, contained in the document or from any golf professional.

I hereby declare that all statements made herein are true and that all statements made herein on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or document or any registration resulting therefrom.

Signed


Charles A. Finn

Dated



Charles A Finn
2955 Cottingham Street
Oceanside, CA 92054
(760) 757-3003

To: United States Patent Office

To Whom It Might Concern:

Enclosed please find the following notebook which contains documentary evidence pertinent to my patent application number 09-934,967.

In separate documents I have explained how my putter uses a lever effect to change the energy vectors on the face of the club, allowing for straighter shots, and making the entire club face a "sweet spot". Because of this lever effect, you can actually use the club backwards, with the T-Bar as the face of the club, and still have the same result. The effect, and the superiority of the putter, is in the technology and engineering, not the aesthetic design or materials.

The enclosed materials provide documentary evidence as to the uniqueness and successful marketing of my putter, which has had national media attention and nationwide distribution. I include quotes from recognized names in professional golf as well as from everyday golfers.

I wish to make it clear that every article, interview, and testimonial is unsolicited. The uniqueness of my invention caused the media to seek me out. To date my company, Mickey Finn Product Development, has not paid a single penny in advertising for any of our golf products.

I hope you will note that when my putter entered the market, there was not a single product like it out there. Today, nearly every major manufacturer is producing knockoff putters. While they are attempting to cash in by producing look-alike, or almost-look-alike clubs, none of them have been able to duplicate the lever technology which makes my putter both superior and unique. If my putter were not superior, why would multi-billion-dollar companies attempt to copy it?

I trust that you will give the enclosed your fullest consideration. If you should have any questions about this material or the technology behind my invention, I hope you will contact me so that I can work with you to resolve things to our mutual satisfaction.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Charles A. Finn', with a stylized flourish extending to the right.

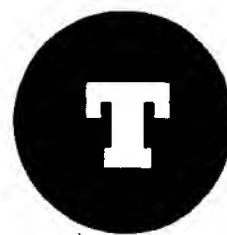
Charles A. "Mickey" Finn

Document: Sales Manual, Global Golf

The following two pages are from the sales manual which Global Golf produced for its sales representatives nationwide. Note the testimonials from golf professionals, including a past Masters Champion, showing how the industry has embraced this new technology.

Progressive Innovations, Inc.

Sales Manual



Technology®

800-757-7453

T-BarTM Putter

Mickey Finn Product Development

Testimonial Sheet

"This putter really works" Arnold Palmer, Legend of the Game.

Mr. Palmer gave us this quote after sinking his first putt with the T-Bar Putter from twenty feet for eagle at the 13th hole at the Tradition Golf Club in La Quinta California.

"This putter feels really good, you guys have something here"
Jay Haas, PGA Tour Professional.

Mr. Haas provided us this quote after putting with the T-Bar Putter on the practice green at Bermuda Dunes Country Club after his first round at the Bob Hope Chrysler Classic.

"This putter is better than 99.9% of all the putters I have tried"
Bob Goalby, 1961 Masters Champion

Mr. Goalby provided us this quote after he sank several putts with the T-Bar Putter.

"As soon as you get them in stock I want to buy one"
Tom Greene, PGA Golf Professional Greenbrier Country Club Virginia

Mr. Greene provided us this quote after making several putts at the PGA Show in Orlando.

"Great feel, I love the way the ball rolls off the club face"
Will McCoy, Financial Executive Chicago Illinois.

Mr. McCoy provided us this quote after using the T-Bar putter in a charity golf tournament.

Document: Letter From Craig Pollard, President of Global Golf

The following two pages are a letter from Craig Pollard, President of Global Golf and its distribution subsidiary, Progressive Innovations, Inc. Note the section "Distribution Network" which outlines the agreement for national distribution. Through this arrangement, the Mickey Finn T-Bar™ Putter was successfully placed in more than 150 major retailers, catalogs, and pro shops throughout the county.



December 20th, 2000

Mickey Finn
2955 Cottingham St.
Oceanside, CA 92054

Dear Mickey -

It was great meeting with you earlier this week. I have put a lot of time thinking what would be the best way for us to work together to promote your products. As we discussed there are several options but the one that I have presented here I think would be the best.

OPTION 1

Global Golf would operate strictly as a distributor for your products at 35% off the suggested wholesale price. Global Golf would ask for an exclusive distribution contract for the United States, and Mexico. This means that anything that ships in these states/Country goes through Global Golf. Any deals outside of Golf or licensing deals or patent royalties, Global Golf gets paid a 10% commission on all that bill through Mickey Finn.

Distribution Network

Global Golf would also set up a distributor network for Mickey Finn products throughout the entire United States. Global Golf would operate as the distributor in California, Arizona, and Nevada. Global would then set up up 12 other distributors like Global Golf throughout the United States and Mexico. Global would receive a 10% commission on all distributor orders. We can bill those distributors through Global Golf if preferred for easier accounting purposes.

This option has Global Golf working as your exclusive sales force for the United States in a distributor network. We will then provide exclusive agreements for all the distributors in their geographic areas. This would actually give Global Golf the exclusive nationwide through our network of distributors. We would together work out an agreement on samples provided and spiff programs for customers that sell the product. For example, if Joe Blow the pro sells a T-Bar Putter than his assistant that made the sale gets \$25.00 from Mickey Finn. This would be tracked as we discussed at the meeting.

This option is a sales performance option with no marketing responsibilities. Mickey Finn would handle all the Advertising, promotion, etc. This includes paying for trade show booths at an agreed upon amount of shows per year.

1315 Spectrum Drive, Suite E, Vista, Ca 92083 • Tel (760) 599-9339 • FAX (760) 599-9908



Global Golf and Mickey Finn would sit down and forecast the sales of all products for 2001 and beyond. This agreement would be a two-year contract, renewable at the same rate based upon performance.

Product Introduction

1. **Genius Ring:** We would recommend introducing the Genius Ring immediately following a review of your packaging. We could launch this product with quick results bringing instant revenue to Mickey Finn.
Suggested Launch: February 2001 at the Orlando Show.
2. **T-Bar Putter:** We recommend launching the \$250.00 putter first targeted towards a select group of green grass and off-course customers. When the product has developed the image and sell through of a successful product then we launch the \$99.00 retail version. This is critical in the life of the product line, too many times we have seen manufacturers try and introduce too many products at a variety of retail prices. This only confuses the customer. Suggested Launch of T-Bar Putter: February 2001. Show to distributor Network, Launch to public after the show.

This will also allow Mickey Finn to properly market each product in a timely and professional manner. Global Golf will consult with Mickey Finn on their thoughts of how to market and introduce each product.

Let me know your thoughts and lets talk in the near future.

Thanks,

Craig Pollard
Global Golf

Document: Sales Brochure

The following page contains a sample sales brochure showing our putters.

Document: Excerpt From GolfWorld Magazine

The following two pages are from the March 2, 2001 edition of GolfWorld Magazine. Note the "Inside Carlsbad" feature by editor John Strege. Carlsbad, California, is considered the capital of the golf industry. This feature demonstrates how the industry embraced this new technology immediately, with attention from both the media and professional players like Arnold Palmer.

New Collegiate Dictionary

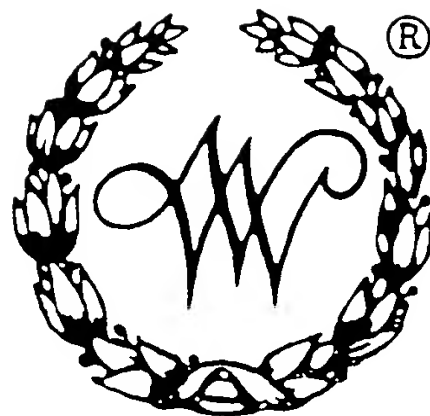
A Merriam-Webster®

G. & C. MERRIAM COMPANY
Springfield, Massachusetts, U.S.A.

EXHIBIT

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Made in the United States of America

by tilting or rotating <~ a rifle> 4 chiefly Brit: to give a sudden turn or new direction to ~ vi 1: to pitch to one side: LEAN 2: SLOPE

cant *adj* 1: having canted corners or sides 2: slanting with respect to a particular straight line

cant *vi* [prob. fr. ONF *cantare* to tell, lit., to sing, fr. L *cantare* — more at CHANT] 1: BEG 2: to speak in cant or technical terms 3: to talk hypocritically

cant *n* 1: affected singsong speech 2 a: the argot of the underworld b *obs*: the phraseology peculiar to a religious class or sect c: JARGON 2 3: a set or stock phrase 4: the expression or repetition of conventional, trite, or unconsidered opinions or sentiments; *esp*: the insincere use of pious phraseology *syn* see DIALECT

can't ('kánt, 'kánt, 'kánt, *esp* South 'kánt\ : can not

Cant *abbr* 1 Cantic of Canticles 2 Cantonese

Can-tab \kán-táb\ *n* [L *Cantabrigiensis*]: CANTABRIGIAN

can-ta-bi-le \kán-táb-ə-lā, kan-táb-ə-lē\ *adv* or *adj* [It, fr. LL *cantabilis* worthy to be sung, fr. L *cantare*]: in a singing manner — often used as a direction in music

Can-ta-bri-gian \kánt-ə-'brij-(ē)-ən\ *n* [ML *Cantabrigia* Cambridge] 1: a student or graduate of Cambridge University 2: a native or resident of Cambridge, Mass. — **Cantabrigian** *adj*

can-ta-la \kán-tál-ə\ *n* [origin unknown]: a hard fiber produced from the leaves of an agave (*Agave cantala*)

can-ta-lou-pe \kánt-l-ōp\ *n* [*Cantalupo*, former papal villa near Rome, Italy] 1: a muskmelon (*Cucumis melo cantalupensis*) with a hard ridged or warty rind and reddish orange flesh 2: any of several muskmelons resembling the cantaloupe; *broadly*: MUSK-MELON

can-tan-ker-ous \kán-tán-k(ə)-rəs, kán-\ *adj* [perh. irreg. fr. *obs. cantack* (contention)]: ILL-NATURED, QUARRELSOME — **can-tan-ker-ous-ly** *adv* — **can-tan-ker-ous-ness** *n*

can-ta-ta \kán-tát-ə\ *n* [It, fr. L, sung mass, ecclesiastical chant, fr. fem. of *cantatus*, pp. of *cantare*]: a usu. sacred choral composition comprising choruses, solos, recitatives, and interludes usu. accompanied by organ, piano, or orchestra

can-ta-trice \kánt-ə-'trē-(j)chā, kán-tə-'trēs\ *n, pl* **can-ta-trices** \-trē-(j)chāz, -trēs-(əz)\ or **can-ta-tri-ci** \kánt-ə-'trē-(j)chē\ [It & F, fr. It, fr. LL *cantatrix*, *cantatrix*, fem. of L *cantator* singer, fr. *cantatus*, pp.]: a female singer; *esp*: an opera singer

cant dog *n* ['cant]: PEAVEY

can-teen \kán-tēn\ *n* [F *cantine* bottle case, sutler's shop, fr. It *cantina* wine cellar, fr. *canto* corner, fr. L *canthus* iron tire — more at CANT] 1: POST EXCHANGE 2: a place of refreshment and recreation maintained by civilians for servicemen 3: a temporary or mobile restaurant 4 a: a partitioned chest or box for holding cutlery b: a soldier's mess kit 5: a usu. cloth-jacketed flask for carrying liquids and *esp*. water

can-ter \kánt-ər\ *n*: one that uses cant: as a: BEGGAR, VAGABOND b: a user of professional or religious cant

can-ter \kánt-ər\ *vb* [short for *obs. canterbury*, fr. *canterbury*, *n*, (canter), fr. *Canterbury*, England; fr. the supposed gait of pilgrims to Canterbury] vi 1: to move at or as if at a canter: LOPE 2: to ride or go on a cantering horse ~ vi: to cause to go at a canter

can-ter *n* 1: a 3-beat gait resembling but smoother and slower than the gallop 2: a ride at a canter

Can-ter-bury bell \kánt-ə(r)-ber-ē-\ *n* [*Canterbury*, England]: any of several bellflowers (as *Campanula medium*) cultivated for their showy flowers

can-tha-ris \kánt(i)-thə-rəs\ *n, pl* **can-thar-i-des** \kánt-thar-ə-dēz\ [ME & L; ME *cantharide*, fr. L *cantharid-*, *cantharis*, fr. Gk *kantharid-*, *kantharis*] 1: SPANISH FLY 2 *pl* but *sing* or *pl* in *constr*: a preparation of dried beetles (as Spanish flies) used in medicine as a counterirritant and formerly as an aphrodisiac

cant hook *n* ['cant]: a stout wooden lever used *esp*. in handling logs that has a blunt usu. metal-clad end and a movable metal arm with a sharp spike

can-thus \kánt(i)-thəs\ *n, pl* **can-thi** \kánt-thī, -thē\ [LL, fr. Gk *kanthos* — more at CANT]: either of the angles formed by the meeting of the upper and lower eyelids

can-ti-cle \kánt-i-kəl\ *n* [ME, fr. L *canticulum*, dim. of *canticum* song, fr. *cantus*, pp. of *canere* to sing]: SONG; *specif*: one of several liturgical songs (as the Magnificat) taken from the Bible

Cantic of Canticles: SONG OF SOLOMON

Canticles *n pl* but *sing* in *constr*: SONG OF SOLOMON

can-ti-le-ver \kánt-l-ē-vər also -ev-ər\ *n* [perh. fr. *cant* + *-i-* + *lever*]: a projecting beam or member supported at only one end: as a: a bracket-shaped member supporting a balcony or a cornice b: either of the two beams or trusses that project from piers toward each other and that when joined directly or by a suspended connecting member form a span of a cantilever bridge — see BRIDGE illustration

can-ti-late \kánt-l-āt\ *vi* **lat-ed**; **lat-ing** [L *cantillatus*, pp. of *cantillare* to sing low, fr. *cantare* to sing — more at CHANT]: to recite with usu. improvised musical tones — **can-ti-la-tion** \kánt-l-ā-shən\ *n*

can-ti-na \kánt-tē-nə\ *n* [AmerSp, fr. Sp. *canteen*, fr. It, wine cellar — more at CANTEN] 1 *Southwest*: a pouch or bag at the pommel of a saddle 2 *Southwest*: a small barroom: SALOON

cant-ing \kánt-ɪŋ\ *adj* ['cant]: affectedly pious or righteous *syn* see HYPOCRITICAL

can-tle \kánt-l\ *n* [ME *cantel*, fr. ONF, dim. of *cant* edge, corner — more at CANT] 1: a segment cut off or out of something: PART, PORTION 2: the upward projecting rear part of a saddle

can-to \kán-(j)to\ *n, pl* **cantos** [It, fr. L *cantus* song, fr. *cantus*, pp. of *canere* to sing — more at CHANT]: one of the major divisions of a long poem

can-ton \kánt-n, 'kan-tān\ *n* [MF, fr. OProv, fr. *cant* edge, corner fr. L *canthus* iron tire — more at CANT] 1 *obs*: DIVISION, SECTION 2 [MF, fr. It *cantone*, fr. *canto* corner, fr. L *canthus*]: a small territorial division of a country: as a: one of the states of the Swiss confederation b: a division of a French arrondisse-

ment 3: the top inner quarter of a flag 4: the dexter chief region of a heraldic field — **can-ton-al** \kánt-n-əl, kan-tān-əl\ *adj*

can-ton \kánt-n, 'kan-tān, in sense 2 usu. kan-tōn or -tān\ *vi* 1: to divide into parts; *specif*: to divide into cantons 2: to allot quarters to (as a body of troops)

can-ton crepe \kán-tān-\ *n, often cap* 1st C [*Canton*, China]: a soft thick dress crepe made in plain weave with fine crosswise ribs

Can-ton-ese \kánt-n-'ēz, -ēs\ *n, pl* **Cantonese** 1: a native or inhabitant of Canton, China 2: the dialect of Chinese spoken in and around Canton — **Cantonese** *adj*

can-ton flannel \kán-tān-\ *n, often cap* C [*Canton*, China]: FLANNEL 1b

can-ton-ment \kán-tōn-mənt, -tān-\ *n* 1: the quartering of troops 2 a: a group of more or less temporary structures for housing troops b: a permanent military station in India

Can-ton ware \kán-tān-\ *n*: ceramic ware exported from China *esp*. during the 18th and 19th centuries by way of Canton and including blue-and-white and enameled porcelain and various ornamented stonewares

can-tor \kánt-ər\ *n* [L, singer, fr. *cantus*, pp. of *canere* to sing] 1: a choir leader: PRECENTOR 2: a synagogue official who sings or chants liturgical music and leads the congregation in prayer

can-trip \kán-trəp\ *n* [prob. alter. of *caltrop*] 1 chiefly Brit: a witch's trick: SPELL 2 chiefly Brit: a mischievous or whimsically eccentric act

can-tus \kánt-əs\ *n, pl* **can-tus** \kánt-əs, 'kan-tūs\ 1: CANTUS FIRMUS 2: the principal melody or voice

can-tus fir-mus \kánt-əs-'fɪ(ə)r-məs, -fər-\ *n* [ML, lit., fixed song] 1: the plainchant or simple Gregorian melody orig. sung in unison and prescribed as to form and use by ecclesiastical tradition 2: a melodic theme or subject; *esp*: one for contrapuntal treatment

canty \kánt-ē\ *adj* ['cant] *dial* Brit: CHEERFUL, SPRIGHTLY

Ca-nuck \kə-'nək\ *n* [prob. alter. of *Canadian*] 1: CANADIAN 2 chiefly *Canad*: FRENCH CANADIAN 3: CANADIAN FRENCH — usu. used disparagingly

can-vas also **can-vass** \kán-vəs\ *n, often attrib* [ME *canevas*, fr. ONF, fr. (assumed) VL *cannabaceus* hempen, fr. L *cannabis* hemp — more at CANNABIS] 1: a firm closely woven cloth usu. of linen, hemp, or cotton used for clothing and sails 2: a set of sails: SAIL 3: a piece of canvas used for a particular purpose 4: a military or camping tent; also: a group of such tents 5 a: a cloth surface prepared to receive an oil painting; also: the painting on such a surface b: the background, setting, or scope of an historical or fictional account or narrative <the crowded ~ of history> 6: a coarse cloth so woven as to form regular meshes for working with the needle 7: the floor of a boxing or wrestling ring — **can-vas-like** \-və-slik\ *adj*

can-vas *vi* -vased or -vassed; -vas-ing or -vass-ing: to cover, line, or furnish with canvas

can-vas-back \kán-vəs-bak\ *n*: a No. American wild duck (*Aythya valisineria*) characterized *esp*. by the elongate sloping profile of the bill and head

can-vass also **can-vas** \kán-vəs\ *vi* 1 *obs*: to toss in a canvas sheet in sport or punishment 2 a *obs*: BEAT, TROUNCE b *archaic*: CASTIGATE 3 a: to examine in detail; *specif*: to examine (votes) officially for authenticity b: DISCUSS, DEBATE 4: to go through (a district) or go to (persons) in order to solicit orders or political support or to determine opinions or sentiments ~ vi: to seek orders or votes: SOLICIT — **can-vass-er** also **can-vas-er** *n*

canvass *n* 1 a: a detailed examination or discussion b: a scrutiny *esp*. of votes 2: the act of canvassing <a house-to-house ~>: as a: the personal solicitation of votes b: a survey to ascertain the probable vote before an election

can-yon \kán-yən\ *n* [AmerSp *cañón*, prob. alter. of *obs. Sp* *callón*, aug. of *calle* street, fr. L *callis* footpath]: a deep narrow valley with precipitous sides often with a stream flowing through it

can-zo-ne \kán-zō-nē, kánt-sō-(j)nā\ *n, pl* -nes \-nēz, -(j)nāz\ or -ni \-nē\ [It, fr. L *cantion-*, *cantio* song, fr. *cantus*, pp. of *canere* to sing — more at CHANT] 1: a medieval Italian or Provençal lyric poem 2: the melody of a canzone

can-zo-net \kán-zə-'net\ *n* [It *canzonetta*, dim. of *canzone*] 1: a part-song resembling but less elaborate than a madrigal 2: a light and graceful song

caou-tchouc \káu-čūk, -čüh\ *n* [F, fr. *obs. Sp* *cauchuc* (now *caucho*) fr. Quechua]: 'RUBBER 2a

cap \káp\ *n, often attrib* [ME *cappe*, fr. OE *cæppe*, fr. LL *cappa* head covering, cloak] 1: a head covering; *esp*: one for men and boys that has a visor and no brim 2: a natural cover or top: as a: an overlying rock layer that is usu. hard to penetrate b (1): PILEUS (2): CALYPTRA c: the top of a bird's head or a patch of distinctively colored feathers in this area 3 a: something that serves as a cover or protection *esp*. for a tip, knob, or end <a bottle ~> b: a fitting for closing the end of a tube (as a water pipe or electric conduit) c: a layer of new rubber fused onto the worn surface of a pneumatic tire 4 a: a cardinal's biretta b: MORTARBOARD 5: an overlying or covering structure <the gal-lened ~ of the old water tower is open to visitors> 6: a paper or metal container holding an explosive charge (as for a toy pistol)

cap *vi* **capped**; **cap-ping** 1 a: to provide or protect with a cap b: to give a cap to as a symbol of honor or rank 2: to form a cap over: CROWN <the mountains were capped with mist — John Buchan> 3 a: to follow with something more noticeable or more significant: OUTDO b: MATCH c: CLIMAX

cap *abbr* 1 capacity 2 capital 3 capitalize; capitalized

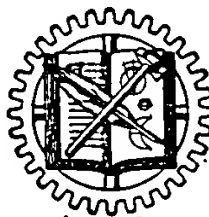
ə abut ʰ kitten ər further a back ā bake ä cot, cart
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ANALYSIS AND DESIGN
OF
STEEL STRUCTURES

BY
ALMON H. FULLER, Sc.D.
*Professor and Head of the Department of Civil Engineering
Iowa State College*

AND
FRANK KEREKES, C.E.
Professor of Structural Engineering, Iowa State College

THIRD PRINTING



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CHAPTER III

BEAMS

STRESSES IN BEAMS

25. Classification of Beams.—The beam constitutes one of the basic elements of which structures are composed. Any solid piece of material, such as a plank, a slab of stone, or a bar of steel, which is supported at its extremities and which carries its own weight and other loads is called a beam. A beam and the loads acting upon it may occupy any position in space; most often, beams are horizontal and the loads acting upon them are weights whose lines of action are vertical.

Beams are classified either in accordance with their manner of support or the material of which they are composed. Thus a beam resting on two supports is called a **simple beam**; a beam rigidly joined to its supports is called a **fixed beam**; a beam supported and **fixed** at only one end is a **cantilever beam**; a beam supported at two points but extending beyond one or both supports is called an **over-hanging beam**; a beam supported at more than two points, is called a **continuous beam**. Beams are generally made of wood, steel, or reinforced concrete. Other materials having structural properties may be used; for example, in recent years structural aluminum is being rapidly developed.

26. Stress Distribution in Beams.—The external forces set up certain internal stresses within the body of a beam and cause the beam to deflect. This deflection continues until the internal stresses are sufficient to hold in equilibrium the external forces. The relationship between the external forces and the internal stresses is important and must be clearly visualized in order to design beams of any shape, material, combinations of materials, or condition of support.

Theoretical analyses supplemented by field and laboratory tests have resulted in establishing certain generally accepted assumptions regarding the stress distribution in a beam. These are:

1. External loads cause a beam to deflect in proportion to the load which is acting.
2. During the deflection of a beam one surface becomes concave and the other surface becomes convex. The horizontal fibers,

with passion and complete disregard for the evidence when it awarded plaintiff \$10,000,000 in the face of evidence of only \$7,956,812 in damages. Defendants conclude that because there is no rational relationship between the specific injury sustained and the amount awarded, a new trial must be granted.

While Larami admits that its damages expert opined that Larami may have suffered a lower amount of damage than awarded by the jury, plaintiff counters that the expert's estimate was based on several explicit, conservative assumptions and that the jury was not required to accept his conservative calculations. According to plaintiff, there was sufficient evidence in the record for the jury to find that the \$10,000,000 damage award was appropriate. Because I agree with plaintiff that the testimony of Mr. Osborne could support an award of \$10,000,000 in damages, defendants' motions shall be denied.

Generally, the granting of a new trial motion under Fed. R. Civ. P. 59 is committed to the sound discretion of the district court. See *Bonjorno v. Kaiser Aluminum & Chemical Corp.*, 752 F.2d 802, 812 (3d Cir. 1984), cert. denied, 477 U.S. 908 (1986); *Windsor Shirt Co.*, 793 F. Supp. at 595. A less stringent standard applies to a motion for a new trial than to a motion for judgment as a matter of law. *Slade v. White Corp.*, 810 F. Supp. 396, 399 (N.D.N.Y.), *aff'd without op.*, 999 F.2d 537 (2d Cir. 1993). The Third Circuit has stated that a court should only exercise its discretion to grant a new trial on the basis that the verdict was against the weight of the evidence where a miscarriage of justice would result if the verdict were to stand, or where the verdict, on the record, cries out to be overturned or shocks the conscience. *Williamson v. Consolidated Rail Corp.*, 926 F.2d 1344, 1353 (3d Cir. 1991); *China Resource Products, Ltd. v. Fayda Int'l, Inc.*, 856 F. Supp. 856, 862 (D. Del. 1994); *Windsor Shirt Co.*, 793 F. Supp. at 595; see also *Slade*, 810 F. Supp. at 399 (A new trial is warranted if the district court is convinced that the jury has reached a seriously erroneous result or that the verdict is a miscarriage of justice.) In the context of a challenge to an award of damages as excessive, a new trial should not be granted when "[t]here [is] a rational relationship between the specific injury sustained and the amount awarded." *Gumbs v. Pueblo Int'l, Inc.*, 823 F.2d 768, 773 (3d Cir. 1987).

In support of its claim for damages, Larami proffered the un rebutted testimony of Mr. Osborne. He testified that it was his opinion that Larami had suffered damages caused by defendants' actions "in excess" of 7.9 million dollars. 6/22/94 Tr. at 95 (emphasis added). Mr. Osborne explained that that figure was made up of two components — \$51,812 in legal fees and \$7,905,000 in lost royalty income due to the improper conduct of defendants. *Id.* at 95-96. The jury returned a verdict, it is to be recalled, in favor of Larami and against defendants in the amount of \$10,000,000.

Mr. Osborne, who as mentioned previously was qualified as an expert in investigative accounting and business damage analysis, testified that he arrived at his damage estimate only after applying certain conservative assumptions. As Mr. Osborne explained, even though Larami likely would receive a potential net royalty from the Super Soaker licensing in the amount of 5.4 percent to 8 percent, Mr. Osborne used only a 5 percent net royalty figure "to be conservative." *Id.* at 112. Mr. Osborne used a figure that fell below the actual range.

Applying the 5 percent figure to the \$171,800,000 in Larami's primary product sales,²¹ it translates into an estimated \$8,590,000 that Larami would have received in royalties from licensing sales over the relevant three year period.²² Had the jury decided to use the midpoint of Mr. Osborne's opinion of Larami's expected net royalty range, 6.7 percent, rather than 5 percent, that amount based upon 6.7 percent would have more than accounted for the difference between Mr. Osborne's ultimate conservative estimate and the final jury verdict of \$10,000,000. After subtracting the actual royalties received by Larami of \$685,000, the lost profits estimate after applying the 6.7 percent figure to Larami's primary product sales of \$171,800,000 would be approximately \$10,826,000.

The jury reasonably could have inferred from his testimony that Mr. Osborne was conservative in other aspects of his calculations. For example, Mr. Osborne used the 1990 to 1992 primary sales figure

²¹ Remember, according to Mr. Osborne, there is usually a one-to-one relationship between primary product sales and sales of licensed products. Because Larami received \$685,000 in royalties, Larami's estimated net lost profits were in the amount of \$7,905,000.

III. CONCLUSION

For the foregoing reasons, and upon consideration of the motions of defendants Alan Amron and TIMP for judgment as a matter of law and/or a new trial pursuant to Fed. R. Civ. P. 50 and 59, and the response of plaintiff thereto, having found that the evidence at trial was sufficient to sustain the jury's verdict, the motions of defendants shall be denied.

An appropriate Order follows.

ORDER

AND NOW, this 22nd day of March 1995, upon consideration of the motions of defendants Alan Amron and Talk To Me Products, Inc. for judgment as a matter of law pursuant to Fed. R. Civ. P. 50, and/or a new trial pursuant to Fed. R. Civ. P. 59 (Document Nos. 78, 79), and the responses of the plaintiff Larami Corporation thereto, and for the reasons stated in the attached memorandum, it is hereby ORDERED that the motions are DENIED.

This is a final disposition of all claims.

U.S. Court of Appeals
Federal Circuit

In re Chu

No. 95-1038

Decided September 14, 1995

PATENTS

1. Patentability/Validity — Specification
— Written description (§115.1103)

Patentability/Validity — Inventorship
(§115.13)

Board of Patent Appeals and Interferences erred by holding that applicants are

Myers Co., 710 F. Supp. 118, 120 (E.D. Pa. 1989); see also Fed. R. Evid. 606(b). In the Third Circuit, when matters such as envy, bias, and prejudice result only from intra-jury influences, they will not support the grant of a new trial. Because defendants have not alleged that the jury's verdict was the result of extraneous influences, defendants' argument is ineffectual. For examples of "extraneous influences," see *Government of Virgin Islands v. Gereau*, 523 F.2d 140, 148-50 (3d Cir. 1975), cert. denied, 424 U.S. 917 (1976).

not entitled to benefit of filing date of existing patent on ground that patent and application lack complete identity of inventorship, since there is overlap in inventive entities of patent and application, which claims to be continuation in part of patent, and since 35 USC 120 plainly allows continuation, divisional, and continuation in part applications to be filed and afforded filing date of parent even though parent and subsequent applications do not share complete identity of inventorship; patent is nevertheless available as prior art against application, since patent does not disclose subject matter of application claims at issue as required by 35 USC 112.

2. Patentability/Validity — Obviousness — In general (§115.0901)

Patentability/Validity — Obviousness — Evidence of (§115.0906)

Board of Patent Appeals and Interferences erred, in upholding obviousness rejection of application claims, by concluding that claims' disclosure was matter of "design choice," and that applicants' evidence and arguments to contrary are not present in specification and are therefore unpersuasive, since board is required to consider totality of record and is not free to disregard evidence and arguments presented by applicants, and since there is no support for proposition that USC 103 rejection must be contained within specification, given that obviousness is determined by totality of record including, in some instances most significantly, evidence and arguments proffered during give-and-take of ex parte patent prosecution.

3. Patentability/Validity — Obviousness — Relevant prior art — Particular inventions (§115.0903.03)

Placement of selective catalytic reduction catalyst within bag retainers in fabric filter house of apparatus used to control emissions from fossil fuel boilers, as taught by claims in application, would not have been matter of "design choice" and therefore obvious, since there is no teaching or suggestion in prior art that would lead one of ordinary skill to modify structure of prior art reference to place SCR catalyst within bag retainer, rather than between two filter bags as disclosed in that reference, and since technical evidence presented by applicants relating to frailty of fabric filters during pulse-jet cleaning clearly militates against conclusion that place-

ment of catalyst in filter baghouse is mere "design choice."

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of Paul Chu, William Downs, John B. Doyle and Peter V. Smith, serial no. 07/593,546. From decision of Board of Patent Appeals and Interferences upholding examiner's final rejection of application claims 1, 2, 12 and 14, applicants appeal. Reversed.

Daniel S. Kalka, of McDermott Inc., Barberton, Ohio; Peter C. Michalos, of Nottaro & Michalos, New York, N.Y., for appellant.

Nancy J. Linck, Albin F. Drost, deputy solicitor, Scott A. Chambers, associate solicitor, and La Vonda R. De Witt, Patent and Trademark Office, for appellee.

Before Rich, circuit judge, Skelton, senior circuit judge, and Newman, circuit judge.

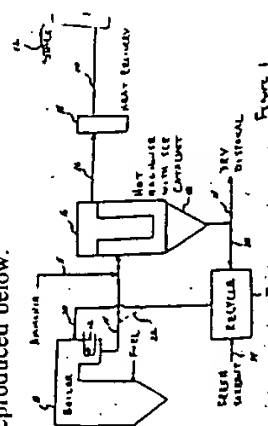
Rich, J.

Paul Chu, William Downs, John B. Doyle, and Peter V. Smith (collectively Chu) appeal the August 9, 1994 decision of the Board of Patent Appeals and Interferences (Board) of the United States Patent and Trademark Office (PTO) affirming the Examiner's final rejection of claims 1, 2, 12, and 14 of patent application Serial No. 07/593,546 (the '546 application). We reverse.

I. Background

A. The Invention

Chu's invention relates to an apparatus used to control emissions, such as sulfur oxides (SOx), oxides of nitrogen (NOx), and particulates, such as fly ash, from fossil fuel boilers. Fig. 1 of the '546 application is reproduced below.



The rejections of the remaining pending claims were not appealed.

The apparatus includes a fossil fuel fired boiler 10 containing an economizer 12 which receives combustion flue gas therefrom. The flue gas is input via exhaust duct 14 to a fabric filter house or baghouse 16 where it is cleaned, as described in greater detail below. Ammoniacal compounds are also input to the baghouse 16 through duct 14 at point 18. Sorbent is input to the boiler 10 either upstream of the economizer 12 at point 22 downstream of the economizer 12 at point 22 depending on the particular sorbent chosen. After exiting baghouse 16, the clean flue gas proceeds along duct 36 to heat transfer device 38 which lowers the exit gas temperature. The flue gas then exits along duct 40 to the stack 42 where it passes to the environment.

Fig. 2 of the '546 application is a partial cross section of baghouse 16.

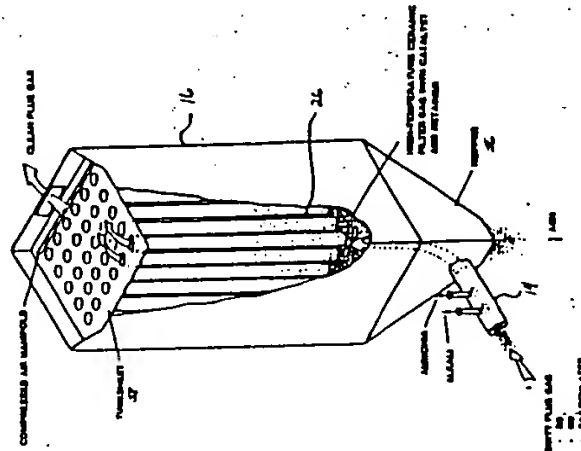


Fig. 2.

The baghouse 16 contains suitable fabric filters, such as filter bags 26. A selective catalytic reduction (SCR) catalyst 24, not shown in Fig. 2, is incorporated into the baghouse 16. The SCR catalyst 24 is located in the exhaust plenum of the baghouse 16, or, preferably, inside the filter bags 26.

Figs. 6-9 show alternative embodiments of apparatus for placement of the SCR catalyst

24 within each filter bag 26 of the baghouse 16. Fig. 6 is exemplary and is reproduced below.

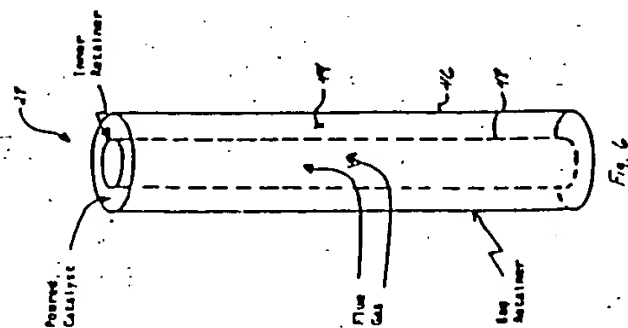


Fig. 6 shows a catalyst bed 44, or bag retainer, formed of concentric cylinders 46 and 48, each constructed of a porous material such as a perforated metal plate. The filter bag 26 encloses the bag retainer. The SCR catalyst 24 is placed in the space between cylinders 46 and 48. Flue gas flows up through the cylinders 46 and 48, as shown. The particulates and sorbent collect on the filter bags 26 to form filter cakes. To clean the filter bags 26, a pulse-jet cleaning system wherein a pulse of high-pressure air is blown into the bag retainer. The surface of each filter bag 26 is thereby cleaned and the filter cakes are discharged into a hopper 56.

Claim 1, the only independent claim at issue, recites:

1. An apparatus for controlling emissions of a fossil fuel fired boiler which produces flue gases containing SOx, NOx, and particulates, comprising:

a flue gas duct constructed so as to carry flue gases from a boiler to a stack for discharge;

a high-temperature pulse jet fabric filter house connected along the flue gas duct between the boiler and the stack constructed so as to remove particulate from the flue gas passing along the flue gas duct, said fabric filter house having a

plurality of fabric filter bags contained therein with each of said fabric filter bags having a bag retainer situated therein; a selective catalytic reduction catalyst positioned inside the bag retainer of each of said fabric filter bags in said filter house;

means for recovering heat connected along the flue gas duct downstream of said fabric filter house, said heat recovering means constructed so as to be heated by the flue gases in the flue gas duct; means for injecting an ammoniacal compound into the flue gas duct upstream of said filter house; and means for injecting sorbent into the flue gas duct upstream of the filter house whereby the sorbent reacts with SO_x, the particulates are removed in said fabric filter house, thus protecting the NO_x reduction catalyst from fly ash erosion and SO_x poisoning.

B. The Prosecution

The Examiner rejected claims 1, 2, 12, and 14 under 35 U.S.C. § 103 (1988) as being unpatentable over U.S. Patent No. 4,871,522 issued to Doyle in view of U.S. Patent No. 4,874,386 issued to Szymanski et al. (Szymanski). The Examiner stated that Doyle discloses all elements of claim 1 but "fails to disclose a baghouse filters [sic] having a catalyst located within the filter, and is silent on specific baghouse filter design." The Examiner asserted, however, that Szymanski teaches "a baghouse filter similar to those of the instant claims" and that "[o]fne of ordinary skill in the art would have modified the [Doyle] apparatus to incorporate the baghouse filters of [Szymanski] to facilitate simultaneous removal of sulfur oxides and particulates on the filter and nitrogen oxides through the catalytic bed, disposed within the filters."

In response to the rejection, Chu first argued that the subject application "claims the benefit of the filing date as a continuation-in-part of [the Doyle patent]" such that the use of the Doyle patent "as a reference should be limited only to the new matter claimed in the continuation-in-part application."

As to the merits of the rejection, Chu contended that Doyle teaches placing the SCR catalyst in a heat exchanger downstream from the fabric filter house. Chu also argued that Szymanski "adds nothing to the foregoing reference since it merely teaches ... incorporating an SCR catalyst into the filter fabric of a filter bag." Chu maintained that neither Doyle nor Szymanski teaches or suggests positioning the SCR catalyst inside the bag retainer of the filter bags as claimed.

This feature is significant, according to Chu, because the bag retainers provide support and prevent the filter bags from collapsing during pulse-jet cleaning.

C. The Board's Decision

The Board first addressed whether the Doyle patent is available as prior art against the '546 application. The Board concluded that "Doyle is available as a reference for its entire disclosure under 102(e)/103 as to the current application because it is the uncontroverted work of 'another' in this particular case." The Board reasoned that because the Doyle patent and the Chu application have different, albeit overlapping, inventive entities, the Doyle patent is necessarily the work of "another" as defined in 35 U.S.C. § 102(e) (1988) and therefore available as prior art. That Chu claimed the benefit of Doyle's earlier filing date by claiming continuation-in-part (CIP) status under 35 U.S.C. § 120 (1988) was found to be irrelevant, the Board stating that "an attempt to claim CIP status between applications which never shared the same inventive entity is unavailable as a means to overcome" a rejection under § 103.

As to the merits of the § 103 rejection, the Board agreed with the Examiner that Doyle discloses all the elements of independent claim 1 except an SCR catalyst positioned within a bag retainer. The Board found that Szymanski's relatively stiff meshed inner wall 32 is a bag retainer as that term would be understood by one of ordinary skill in the art. Thus, in Szymanski, the catalyst is located between the bag retainer 32 and the bag 30, whereas claim 1, by contrast, requires the catalyst to be "positioned inside the bag retainer."

The Board concluded that the change between situating the catalyst in between the bag and the bag retainer and within the bag retainer is a matter of "design choice" and affirmed the rejection of claim 1. As to dependent claims 2, 4, and 14, the Board held that as "appellants have not separately argued such claims with any reasonable degree of specificity apart from claim 1," those claims "will fall with claim 1." The rejection of claims 2, 4, and 14 was accordingly affirmed.

Chu appealed the Board's decision to this court. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) (1988).

II. Availability of Doyle as a Reference

A. Standard of Review

Statutory interpretation is a question of law which we review de novo. *In re*

Kathawala, 9 F.3d 942, 945, 28 USPQ2d 1785, 1786 (Fed. Cir. 1993). In appeals from PTO rejections, the Board's findings are reviewed under the clearly erroneous standard. *In re Caveney*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985).

B. Analysis

The threshold issue in this case is whether the Doyle patent is available as prior art against Chu's claims. Chu maintains that the instant application should be afforded the Doyle patent filing date with respect to "the disclosure of the Doyle application" because the instant application claims to be a CIP of the Doyle patent. According to Chu, affording Chu's application this filing date would remove the Doyle patent as a reference. However, the Board found, and the PTO argues on appeal, that Chu is not entitled to the benefit of the Doyle patent filing date because there is not the same inventive entity between the Doyle patent and the Chu application. We conclude that Doyle is a proper prior art reference, though not for the reasons advanced by the Board.

Section 104(b) of the Patent Law Amendments Act of 1984 struck the phrase "by the same inventor" from 35 U.S.C. § 120 and substituted therefor the phrase "which is filed by an inventor or inventors named in the previously filed application." Patent Law Amendments Act of 1984, Pub. L. No. 98-622, sec. 104(b), § 120, 98 Stat. 3383, 3385.

The legislative history of this amendment clearly explains its purpose.

Subsection (b) of section 105¹ amends section 120 of the patent law to provide that an application can obtain the benefit of the filing date of an earlier application when not all inventors named in the joint application are the same as named in the earlier application. This permits greater latitude in filing "divisional" applications. For example, if the previously filed application named inventors A and B as the inventors, a later application by either A or B could be filed during the pendency of the previously filed application and claim benefit of the previously filed application. 130 Cong. Rec. 28065, 28071 (1984), H.R. 6286, 98th Cong., 2d Sess. (1984), reprinted in 1984 U.S.C.A.N. 5827, 5835 (Section-by-Section Analysis: Patent Law Amendments of 1984).

¹In the Congressional Record, the pertinent section is § 105(b). See 130 Cong. Rec. 28066 (1984). The same section, however, is listed as § 104(b) in United States Statutes at Large. See 98 Stat. at 3385.

[1] The 1984 amendment to § 120 plainly allows continuation, divisional, and continuation-in-part applications to be filed and afforded the filing date of the parent application even though there is not complete identity of inventorship between the parent and subsequent applications. D. Chisum, *Patents* § 13.07 (1995). Thus, the Board erred in requiring complete identity of inventorship between the Doyle patent and the Chu application in order for Chu to have the benefit of the Doyle patent's filing date. There is overlap in the inventive entities of the Doyle patent and the Chu application, which, after the 1984 amendment, is all that is required in terms of inventorship or "inventive entity" to have the benefit of an earlier filing date. But this does not determine whether Chu is entitled to the Doyle date. There is another requirement.

It is elementary patent law that a patent application is entitled to the benefit of the filing date of an earlier filed application only if the disclosure of the earlier application provides support for the claims of the later application, as required by 35 U.S.C. § 112. 35 U.S.C. § 120. *Mendenhall v. Cedarapids Inc.*, 5 F.3d 1557, 1566, 28 USPQ2d 1081, 1088-89 (Fed. Cir. 1993) ("A patentee cannot obtain the benefit of the filing date of an earlier application where the claims in issue could not have been made in the earlier application."). *cert. denied*, 114 S. Ct. 1540 (1994); see also *Litton Sys., Inc. v. Whirlpool Corp.*, 728 F.2d 1423, 1438, 221 USPQ 97, 106 (Fed. Cir. 1984) (discussing filing dates of CIP applications).

Thus, Chu is entitled to the benefit of the Doyle patent filing date only if the Doyle patent discloses the subject matter now claimed by Chu. This, however, is admitted by Chu not to be the case. In fact, Chu states that "the invention as now claimed" was not described in the [Doyle] patent." Specifically, Chu concedes that "nothing in Doyle suggests that SCR catalyst be placed inside the bag filter." Therefore, independent claim 1, which includes this limitation, and dependent claims 2, 4, and 14, are not supported by the Doyle patent disclosure. Accordingly, Chu cannot obtain the benefit of the Doyle patent filing date for these claims and the Doyle patent was properly relied on as prior art.

III. The Merits of the Rejection

A. Standard of Review

Obviousness under section 103 is a question of law that we review de novo. *In re Donaldson Co.*, 16 F.3d 1189, 1192, 29

USPQ2d 1845, 1848 (Fed. Cir. 1994) (in banc). What a reference teaches is a question of fact reviewed under the clearly erroneous standard. *In re Beattie*, 974 F.2d 1309, 1311, 24 USPQ2d 1040, 1041 (Fed. Cir. 1992).

B. Obviousness

In a proper obviousness determination, "[w]hether the changes from the prior art are 'minor' . . . the changes must be evaluated in terms of the whole invention, including whether the prior art provides any teaching or suggestion to one of ordinary skill in the art to make the changes that would produce the patentee's . . . device." *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 935, 15 USPQ2d 1321, 1324 (Fed. Cir.), cert. denied, 498 U.S. 920 (1990). This includes what could be characterized as simple changes, as in *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (Although a prior art device could have been turned upside down, that did not make the modification obvious unless the prior art fairly suggested the desirability of turning the device upside down.).

"[W]here the prior art gives reason or motivation to make the claimed [invention] . . . the burden (and opportunity) then falls on an applicant to rebut that *prima facie* case. Such rebuttal or argument can consist of . . . any other argument or presentation of evidence that is pertinent." *In re Dillon*, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (in banc), cert. denied, 500 U.S. 904 (1991). After evidence or argument is submitted by the applicant in response to an obviousness rejection, "patentability is determined on the totality of the record, by a preponderance of evidence with due consideration to persuasiveness of the argument." *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); see *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787 (Fed. Cir. 1984) ("All evidence on the question of obviousness must be considered, both that supporting and that rebutting the *prima facie* case.").

C. Analysis

During prosecution, Chu proffered multiple reasons why placement of the SCR catalyst within the bag retainer is not merely a matter of "design choice." To support his reasoning, Chu supplied various technical articles discussing fabric filters and the stresses they undergo during pulse-jet cleaning. From this evidence, Chu contended that Szymanski does not "accommodate the frailties of the high temperature fabric" of the filter bag and therefore "one of ordinary skill

in the art would not look favorably on the teachings of the Szymanski, et al. patent." Accordingly, Chu concluded that one of ordinary skill in the art would not have been led to modify Szymanski from its teaching of situating the catalyst between two filter bags to placing the catalyst within the bag retainer, as claimed.

The Board concluded, however, that placement of the SCR catalyst in the bag retainer was a matter of "design choice" and that Chu's evidence and arguments to the contrary were unpersuasive. Because Chu's "specification is virtually silent on the matter of any purported advantage to locating the catalyst within the bag retainer" and "does not state that the claimed location of the catalyst 'inside the bag retainer' solves any particular problem or produces any unexpected result."

[2] Because the Board was required to consider the totality of the record, the Board was not free to disregard the evidence and arguments presented by Chu in response to the obviousness rejection. Additionally, the Board erred in apparently requiring Chu's evidence and arguments responsive to the obviousness rejection to be within his specification in order to be considered. To require Chu to include evidence and arguments in the specification regarding whether placement of the SCR catalyst in the bag retainer was a matter of "design choice" would be to require patent applicants to divine the rejections the PTO will proffer when patent applications are filed.

Additionally, the cases the Board relied on do not support its position that evidence and arguments must be found in the specification to be considered in an obviousness determination. In each case, the applicant failed to set forth any reasons why the differences between the claimed invention and the prior art would result in a different function or give unexpected results. *In re Rice*, 341 F.2d 309, 144 USPQ 476 (CCPA 1965) ("Appellants have failed to show that the change [in the claimed invention] as compared to [the reference], result in a difference in function or give unexpected results."); *In re Kuhle*, 526 F.2d 553, 555, 188 USPQ 7, 9 (CCPA 1975) ("Use of such means of electrical connection in lieu of those used in the references solves no stated problem and would be an obvious matter of design choice within the skill in the art." (emphasis added) (citations omitted)).

In re Lundberg, 253 F.2d 244, 117 USPQ 190 (CCPA 1958), relied on by the Board, is also unpersuasive. In that case, the applicant argued that its valve was distinguished from the prior art because it could be opened in

either direction. The court found this argument to be unpersuasive because "that advantage is not disclosed in appellant's application," and "the reversible operation now proposed by appellant would require modification." *Lundberg*, 253 F.2d at 247, 117 USPQ at 192. None of the arguments presented by Chu would require any change in the construction of the disclosed emission control apparatus.

We have found no cases supporting the position that a patent applicant's evidence and/or arguments traversing a § 103 rejection must be contained within the specification. There is no logical support for such a proposition as well, given that obviousness is determined by the totality of the record including, in some instances most significantly, the evidence and arguments proffered during the give-and-take of *ex parte* patent prosecution.

[3] From the totality of the record, we hold that placement of the SCR catalyst within the bag retainer would not have been merely a matter of "design choice." First, there is no teaching or suggestion in the prior art that would lead one of ordinary skill in the art to modify the Szymanski structure to place the SCR catalyst within a bag retainer as opposed to between two filter bags as disclosed in Szymanski. Next, Chu's technical evidence relating to the frailty of fabric filters during pulse-jet cleaning clearly counters the assertion that placement of the catalyst in the baghouse is merely a "design choice." Specifically, Chu's evidence regarding the violent "snapping" action during pulse-jet cleaning, the difficulty in stitching compartments including the capacity to withstand high temperatures, and problems encountered from variable path lengths due to settling of the catalyst particles in each compartment militates against a conclusion that placement of the SCR catalyst is merely a "design choice." See *In re Gal*, 980 F.2d 717, 25 USPQ2d 1076 (Fed. Cir. 1992) (finding of "obvious design choice" precluded where the claimed structure and the function it performs are different from the prior art).

IV. Conclusion

We therefore conclude that the subject matter of claim 1 would not have been obvious in view of Doyle and Szymanski. The rejection of independent claim 1, and necessarily of dependent claims 2, 4, and 14, is accordingly reversed.

REVERSED

U.S. Court of Appeals Federal Circuit

Mark I Marketing Corp. v. R.R. Donnelley
& Sons Co.

No. 95-1101

Decided September 14, 1995

PATENTS

1. Infringement — Defenses — Prosecution history estoppel (§120.1105)

Patent infringement plaintiff is estopped from asserting infringement of two-plate color or printing process by any process that does not involve sequential interposition of color filters in preparation of plates, since prosecution history shows that plaintiff was unsuccessful in obtaining allowance of claims until they were narrowed to require that both first and second printing plates be made by interposing particular combinations of colored filters, and since competitor reviewing prosecution history would therefore reasonably conclude that plaintiff surrendered coverage of process not involving sequential interposition of filters in order to procure issuance of patent.

2. Infringement — Defenses — Prosecution history estoppel (§120.1105)

Prosecution history estoppel is not avoided by failing to respond to rejection and instead meeting substance of rejection by filing narrower continuing application, since prosecution history must be viewed as whole to determine whether and what subject matter was surrendered to procure issuance of patent.

3. Infringement — Doctrine of equivalents — In general (§120.0701)

Infringement — Defenses — Prosecution history estoppel (§120.1105)

Patent for two-plate color printing process is not infringed, under doctrine of equivalents, by accused process, since plaintiff is estopped from asserting infringement by any process that does not involve sequential interposition of color filters in preparation of plates, and since accused process, which employs three light beams simultaneously filtered through red, green and blue filters within scanner, indisputably does not involve sequential interposition of filters.

Particular patents — Chemical — Color reproduction

4,554,241, Edwards, color reproduction process, summary judgment of non-infringement affirmed.